

CNS MID EXAM , HOPE BATCH 10/3/2019

Pathology : Dr. Nisreen. Anatomy : Dr. Ramada + Dr. Ayman + Dr. Jamal. Microbiology : Dr. Zain.

Physiology : Dr. Fatimah. Pharmacology : Dr. Romany. Biochemistry : Dr. Mazhar.

Labs : Osama (anatomy) , Nisreen (pathology) , Noor (microbiology) , Dr. Fatimah (physiology).

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**A- Anatomy : 25 out of 26**

1- The most common neurons in invertebrates : (Dr. Ramada)

- a- unipolar neurons
- b- bipolar neurons
- c- pseudo-polar neurons
- d- multipolar neurons

2- Decussation means : (Dr. Ramada)

Answer : cross over

3- All of the following are correct EXCEPT : (Dr. Ramada -.-)

- a- The two cerebral hemispheres are separated by the great longitudinal fissure.
- b- The cerebral cortex is highly convoluted; maximising the cortical surface area, which is over 1 m<sup>2</sup> for both hemispheres.
- c- cerebral cortices are linked together by corpus callosum
- d- The cerebral hemisphere consists of an outer layer, or cortex, of grey matter and an inner mass of white matter.
- e- The cerebral hemisphere is by far the largest part of the brain.

4- The area responsible for mental rehearsal of finger movement : (Dr. Ramadah)

- a- primary motor cortex
- b- supplementary cortex
- c- primary motor cortex and supplementary cortex

5- Sacral plexus : (Dr. Ramada)

- a- L1-S3
- b- L1-L4
- c- C3-T1
- d- S2-S4
- e- L4-S2

6- All of the following are components of the limbic system EXCEPT : (Dr. Ramadah)

- a- amygdala
- b- hippocampus
- c- basal ganglia

- 7- All of the following are correct EXCEPT : (Dr. ramadah)  
a- spinal cord has 8 cervical segments  
**b- subdural space contain CSF**
- 8- During childbirth, an excessive anteroposterior compression of the head may **tear the inferior attachment of the falx cerebri**. The bleeding that follows is likely to be from which of the following venous sinuses? (Dr. Jamal)  
a- Inferior sagittal sinus  
b- Sigmoid sinus  
**c- Straight sinus**  
d- Superior sagittal sinus  
e- Transverse sinus
- 9- The fold that separate the cerebellum and cerebral hemispheres is : (Dr. ayman)  
a- falx cerebri  
b- falx cerebelli  
**c- tentorium cerebelli**  
d- diaphragma sella
- 10- The lateral ventricle communicate with the third ventricle through : (Dr. ayman)  
**ANSWER : foramen of monro**
- 11- Which of the following is correct : (Dr. ayman)  
**ANSWER : lower motor neurons are in the anterior horn of spinal cord**
- 12- All of the following are characteristics of upper motor neuron lesions EXCEPT : (Dr. ayman)  
a- Exaggerated reflexes  
b- Increased muscle tone  
c- Spastic paralysis  
**d- Flaccid paralysis**
- 13- Huntington's disease is characterized by : (Dr. ayman)  
a- rigidity  
b- tremor of the wrist  
c- sudden wild flail-like movement of one limb.  
**d- involuntary jerky and purposeless movements.**

14- The laminae that mainly innervate skeletal muscles : (Dr. Jamal)

- a- I-IV
- b- V, VI
- c- VII
- d- VIII, IX
- e- X

15- The ascending tract that has only 2 neurons is : (Dr. Jamal)

- a- Spino-reticular
- b- Spino-olivary
- c- Spinotectal
- d- Spinocerebellar
- e- Spino-thalamic

16- The part of the ICA that enters the carotid canal is : (Dr. Jamal)

- a- cervical
- b- cerebral
- c- cavernous
- d- Carotid siphon
- e- petrous

17- All of the following are branches of the vertebral artery EXCEPT : (Dr. Jamal)

- a- Posterior inferior cerebellar
- b- Anterior spinal
- c- Posterior spinal
- d- Anterior inferior cerebellar

18- If you look to the cerebral hemisphere from the lateral surface, the major are of this surface will be supplied by : (Dr. Jamal)

- a- anterior cerebral artery
- b- middle cerebral artery
- c- posterior cerebral artery
- d- all of them will supply the lateral surface equally.

19- All of the following about the external features of medulla oblongata are correct EXCEPT: (Dr. Jamal). ANSWER : it connects to the cerebellum by middle cerebellar peduncle

20- Which of the following about pons is correct : (Dr. Jamal)

ANSWER : fibers from the pontine nuclei connect to the contralateral cerebellum

21- Which of the following about midbrain is correct : (Dr.jamal)

- a- The pars compacta contains GABAergic neurons
- b- Most of the neurons in the pars reticularis are dopaminergic and cholinergic
- c- Substantia nigra appears dark due its ferritin and hemoglobin
- d- Red nucleus located in the tegmentum

22- Which of the following about cerebellum is correct : (Dr. Jamal)

- a- it has 4 surfaces
- b- it has 2 lobes
- c- it has 3 anatomical fissures

23- The most lateral nucleus in the cerebellum is : (Dr. jamal)

- a- Dentate
- b- Globose
- c- Emboliform
- d- Interposed
- e- Fastigial

24- This abnormality is : (Dr. Jamal)



Answer : myelomeningocele

25- Which of the following about the development of midbrain is correct : (Dr. Jamal)

- a- The basal plates form the superior and inferior colliculi
- b- The alar plates form the crus cerebri
- c- The marginal layers migrate and form the crus cerebri

**B- Pathology : 10 out of 10**

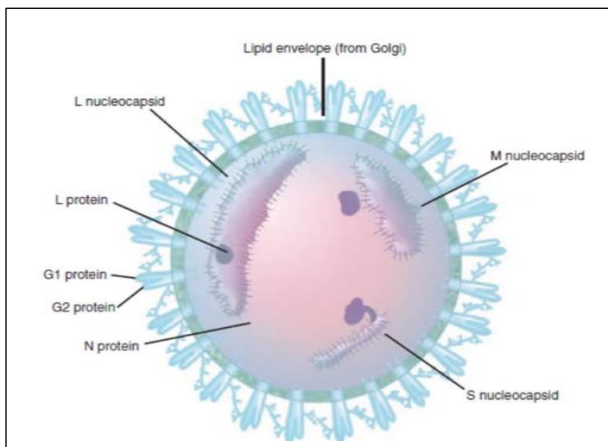
- 26- All of the following are correct except : **Transtentorial herniation the most dangerous type of hernia**
- 27- Rosenthal fibers : **Thick , elongated, brightly eosinophilic protein found in astrocytic processes**
- 28- The most condition associated with saccular aneurysm: **Hypertension**
- 29- Poliovirus : **anterior horn of spinal cord**
- 30- Mismatch : Holoprosencephaly → downward extension of cerebellar tonsils into foramen magnum
- 31- The outcome of injury of the spinal cord depend on : **The level of injury**
- 32- PML infect : **Oligodendrocytes**
- 33- All of the following are correct about CJD except : **you can see mixture of perivascular mononuclear infiltrate.**
- 34- In local infarction, macrophages are seen within :
- a- 12-24 hours
  - b- 10-14 days**
  - c- after 4 weeks
- 35- All of the following cause intracerebral hemorrhage EXCEPT :
- a- Cerebral Amyloid angiopathy
  - b- Vasculitis
  - c- Trauma**
  - d- Coagulation disorders
  - e- Neoplasms

**C- Microbiology : 6 out of 6**

- 36- Which one of these microorganism don't have a vaccine ? **listeria monocytogenes**
- 37- Mismatch: **listeria monocytogenes → can't cross placental blood brain barrier**
- 38- Wrong statment: **we used third generation cephalosporine in treatment of C. neoformans**
- 39- Leading cause of meningitis in neonate : Group B streptococcus

40- Findings of Sample of CSF: clear , high pressure, mixed WBC , high protein and decrease glucose :  
**fungal meningitis**

41- This virus is : **Bunyavirus**



**D- Pharmacology : 11.9 out of 12 :p**

42- The only indication of Fluvoxamine is : **Obsessive-compulsive disorder.**

43- If you give phenelzine with fluoxetine, what happens : **hyperthermia and muscle rigidity**

44- Wrong statement: **Buspirone used in short-term relief of acute anxiety states**

45- Wrong statement: **Flumazenil given orally in single dose .**

46- Wrong statement: **Opioid stimulate the release of serotonin from ventral tegmentum area**

47- True statement: **Halothane isn't hepatotoxic in pediatric patients.**

48- Patient with absence seizures & Generalized tonic clonic, the best drug and with least sedation :  
**Valproate.**

49- Clozapine is limited to use because it causes : **agranulocytosis.**

50- The opioid that causes withdrawal syndrome in a morphine addict is :

a- methadone

**b- nalbuphine**

**Dr. romany explanation :** The point is completely different , by methadone you substitute morphine not to induce its withdrawal which is already happened. By nalbuphine, you induce not substitute, and sure you will not substitute morphine by nalbuphine which acts as antagonist when given to morphine addict.

51- All of the following are correct EXCEPT: **Lamotrigene is used in depression but not in bipolar disease**

52- Which of the following is correct : **atypical anti-psychotic decrease positive and negative symptoms**

53- All of the following are correct EXCEPT :

- a- cocaine can induce fatal cardiac arrhythmias
- b- Disulfuram Inhibits acetaldehyde dehydrogenase enzyme
- c- Lofexidine is alpha-2 adrenergic agonist
- d- LSD cause dilated pupil
- e- sorry, not remembered**

**E- Biochemistry : 4 out of 4**

54- sphingomyelin doesn't contain :

- a- ceramide
- b- fatty acid
- c- galactose**
- d- choline
- e- phosphoric acid

55- Wrong statement: **Huntington disease is an autosomal recessive disorder.**

56- True statement:

- a- GABA results from glutamine
- b- GABA breaks down into glutamate
- c- GABA need vitamin B6 for its formation.**

57- Wrong statement: **serotonin is derived from tyrosine .**

**F- SGD : (Dr. Zain + Dr. Nisreen) : 2 out of 4**

58- Case of left-sided weakness of face and upper limb, dysarthria, dysphasia, left homonymous hemianopia without any change in the level of consciousness. The most probably injury is in the **right middle cerebral artery**

59- All of the following are characteristics of lower motor neuron lesion EXCEPT : **positive Babinski sign**

**In general , there were a lot of questions about UMNL, LMNL and babinski sign from different doctors**

**G- Physiology : 14 out of 14 → the answers are 100% correct; bcz the Dr solved them with us**

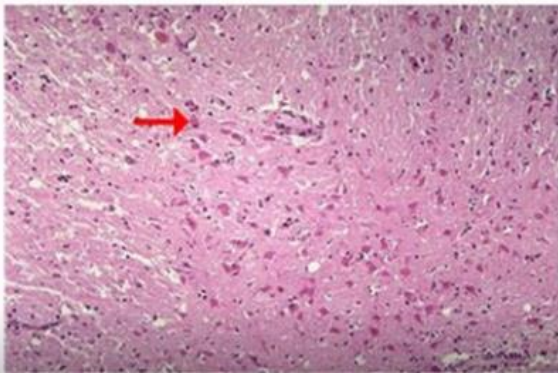
- 60- Which of the following is correct regarding the levels of CNS functions :
- a- **Neuronal circuits in the spinal cord can elicit motor effects independently from the cerebral function**
  - b- The functions of the subcortical areas are precise even without the cortex
  - c- cortical level is responsible for subconscious activities
- 61- Which of the following is NOT a property of synapses :
- a- **binding of calcium ions to release sites in the postsynaptic membrane causes its depolarization in subsequent action potential.**
  - b- Electrical synapses often transmit signals in either direction
  - c- Chemical synapses always transmit the signals in one direction.
  - d- Receptor proteins have a binding component and ionophore component
- 62- Which of the following is an excitatory neurotransmitter :
- a- GABA
  - b- dopamine
  - c- glycine
  - d- **glutamate**
  - e- serotonin
- 63- Which of the following is correct regarding neuronal excitation :
- a- **inhibitory postsynaptic potentials are associated with neuronal membrane hyperpolarization**
- 64- Which of the following is correct regarding the regulation of cerebral blood flow :
- a- An increase in carbon dioxide concentration in the arterial blood perfusing the brain greatly increases cerebral blood flow.
  - b- Increased H<sup>+</sup> concentration increases blood flow, which then carries H<sup>+</sup> , CO<sub>2</sub>, and other acids away from the brain tissues.
  - c- Loss of carbon dioxide removes carbonic acid from the tissues and increase pH moving hydrogen ions concentration back toward normal.
  - d- cerebral blood flow is autoregulated extremely well between arterial pressure limits of 60 and 140 mm Hg.
  - e- **The sympathetic nervous system is the primary means of control of cerebral blood flow**
- 65- Which of the following is a property of CSF :
- a- **non-communicating hydrocephalus can be relieved by the insertion of ventriculoperitoneal shunt**
- 66- Which of the following is applied to cerebral cortex :
- a- The very large fibers to the brain stem and cord arise generally in layer VI
  - b- **most intracortical associated functions are performed in layers I-III in the cerebral cortex**
  - c- prefrontal area distruction leads to dyslexia



- 67- Which of the following is NOT correct regarding brain excitation :  
neurohormones are exclusively excitatory neurohormones that provide long period of control
- 68- Which of the following statements apply to pain :  
a- Pain is the purely physiological process for detection and perception of noxious stimuli  
b- pain receptors have high adaptation  
c- C fibers terminate at lamina I  
d- alpha-delta fibers terminate at laminae II-III  
e- Allodynia is triggering of pain response from stimuli which do not normally provoke pain.  
-- for answer A, it is also emotional (psychologic) not purely physiologic --
- 69- Which of the following is NOT correct regarding pain fibers:  
alpha-delta fibers have a velocity of transmission 0.5-2 m/sec.
- 70- Which of the following apply to sleep :  
a- REM sleep lasts for 90 minutes  
b- it is easier to wake up a person in REM sleep than slow-deep sleep  
c- brain activity is decreased during REM sleep  
d- slow-wave sleep is associated with decreased peripheral vascular tone
- 71- Which of the following is correct regarding epilepsy :  
a- petit-mal epilepsy does not involve loss of consciousness  
b- Grand-mal epilepsy is characterized by postseizure agitation and delirium  
c- psychomotor seizure is a subtype of petit-mal epilepsy  
d- A grand-mal attack needs active inhibition by inhibitory neurons to be stopped  
e- Tonic-clonic seizure lasts more than 10 minutes are referred to as status epilepticus  
EXPLANATION : Answer (D) is not correct bcz you have to be a master in ENGLISH. The word "need" means that the active inhibition is the "only" mechanism to stop a grand-mal attack, but we have another mechanism which is the fatigue of neurons. -. هيد للصبح
- 72- All of the following is NOT correct regarding thermal regulation :  
Air currents increase heat loss by evaporation
- 73- Which of the following is correct regarding fever :  
a- Heat exhaustion occurs when body temperature increases to the point of tissue damage  
b- Untreated Heat stroke may lead to delirium and circulatory shock  
d- Hypothermia is accompanied by cardiac arrest

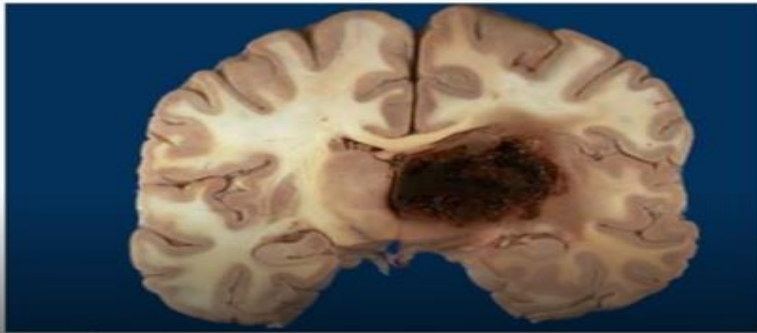
74-

12 – 24 hrs



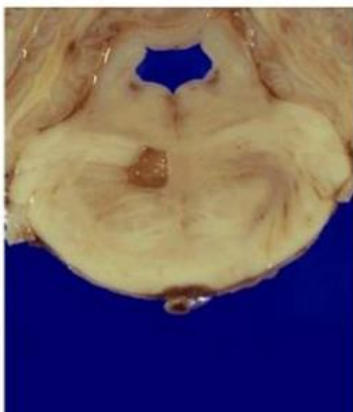
75-

Intracerebral hemorrhage due to HTN



76-

Lacunar infarction



77- CSF findings : **high protein, low glucose, high neutrophils**

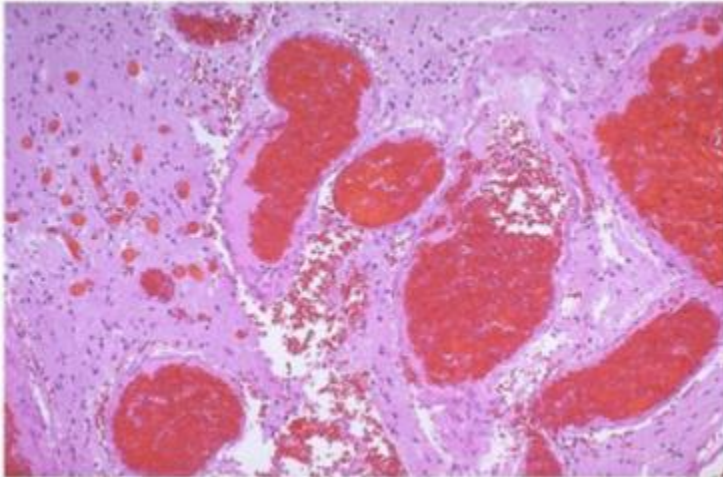


78- **tearing in the bridging veins**

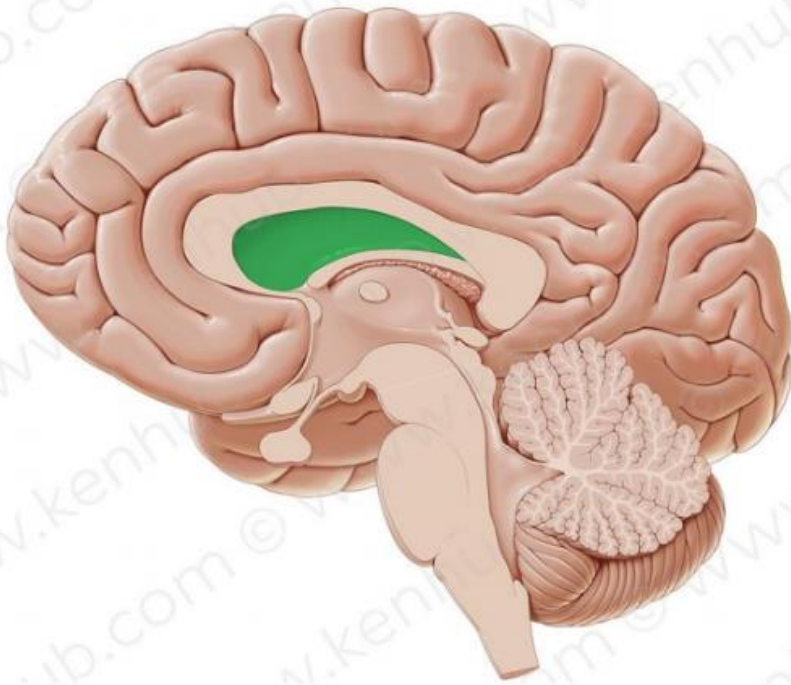
Subdural hemorrhage, due to TRAUMA



79- NOT correct : **dilated thin walled channels devoid of intervening brain tissue**

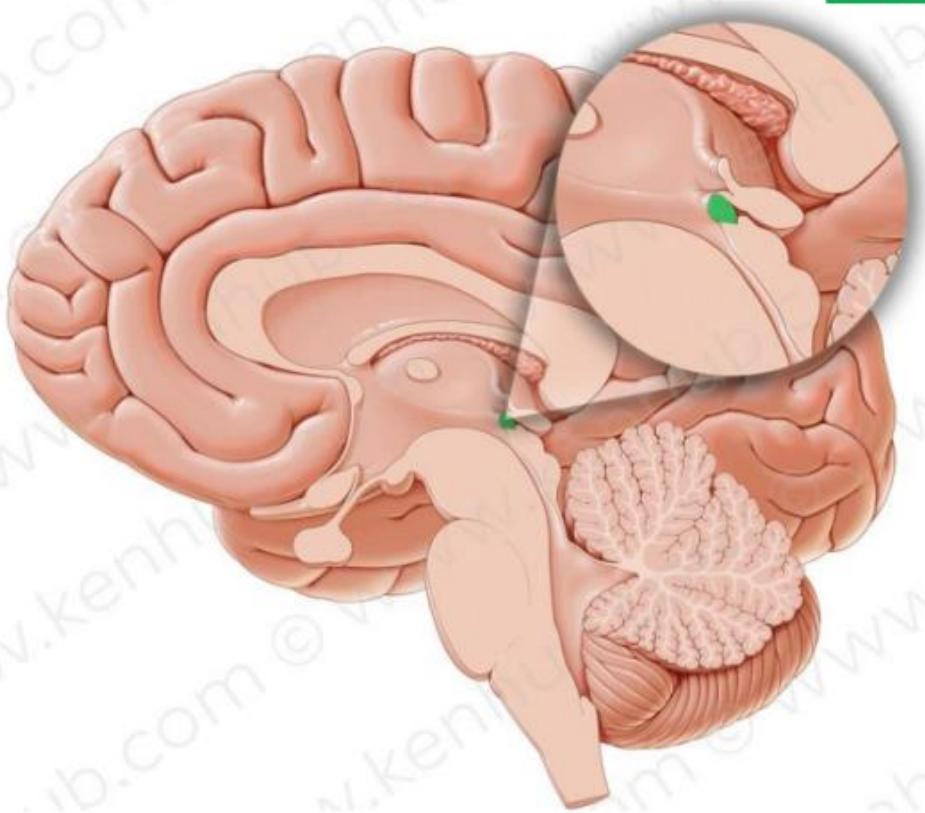


80- Lateral to this structure is : lateral ventricle

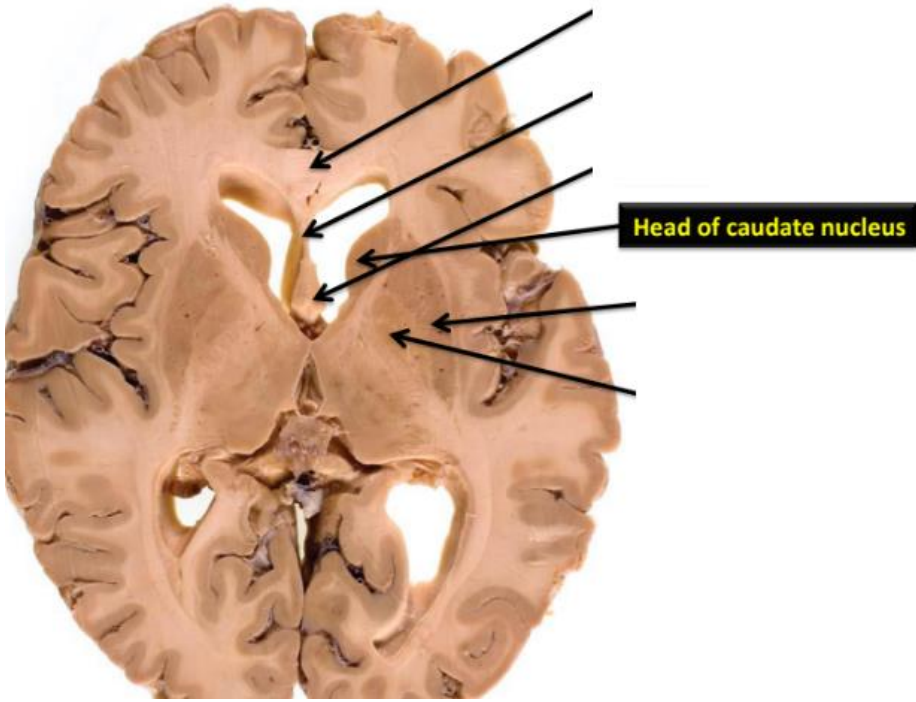


81-

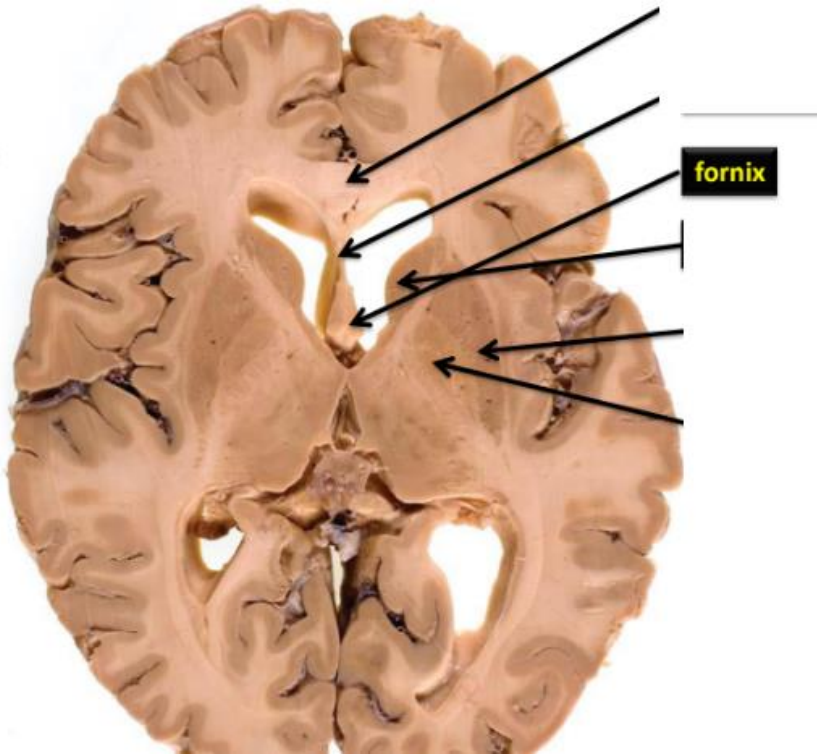
**Posterior commissure**



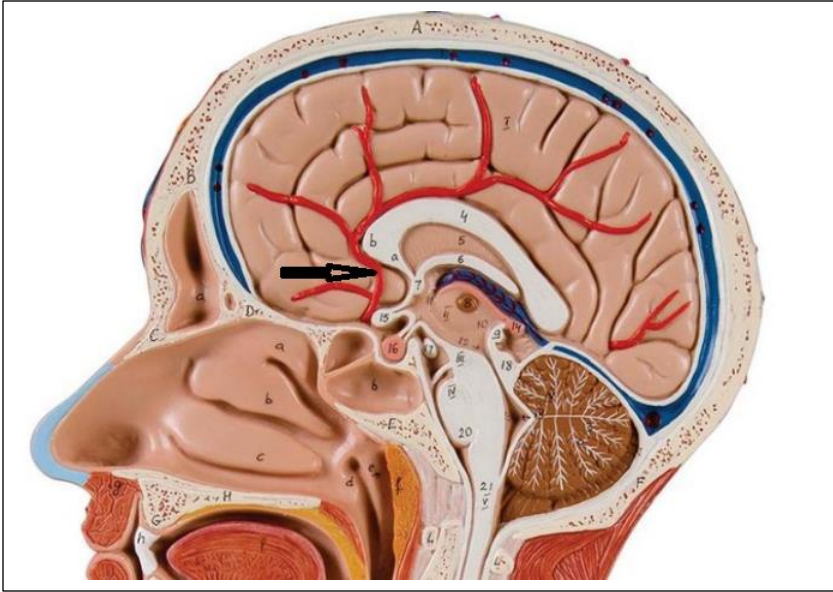
82-



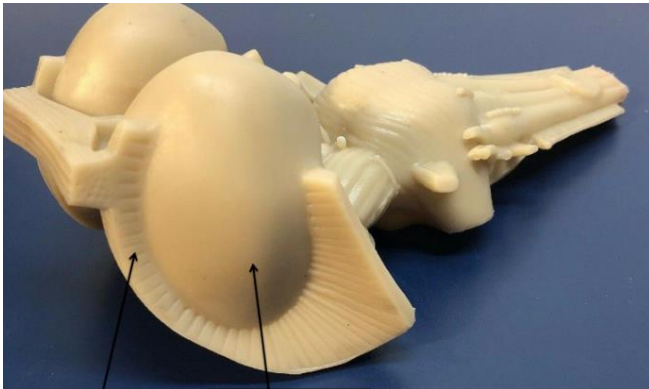
83-



84- right anterior cerebral artery

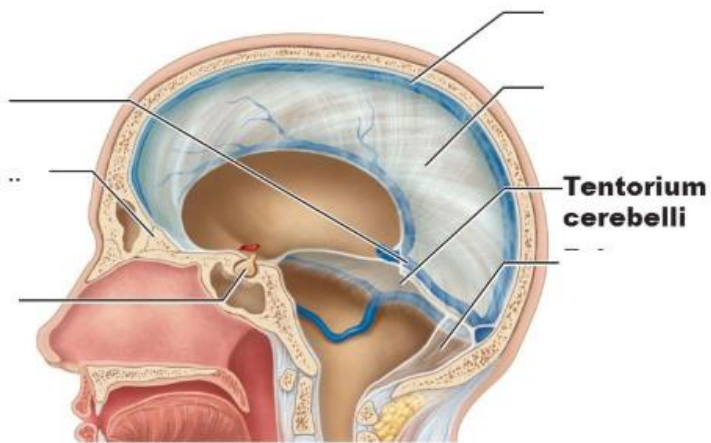


85- Putamen

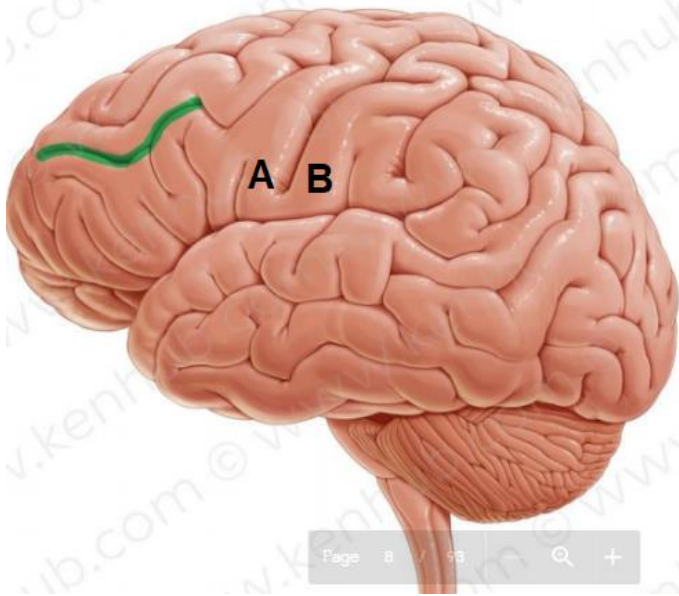


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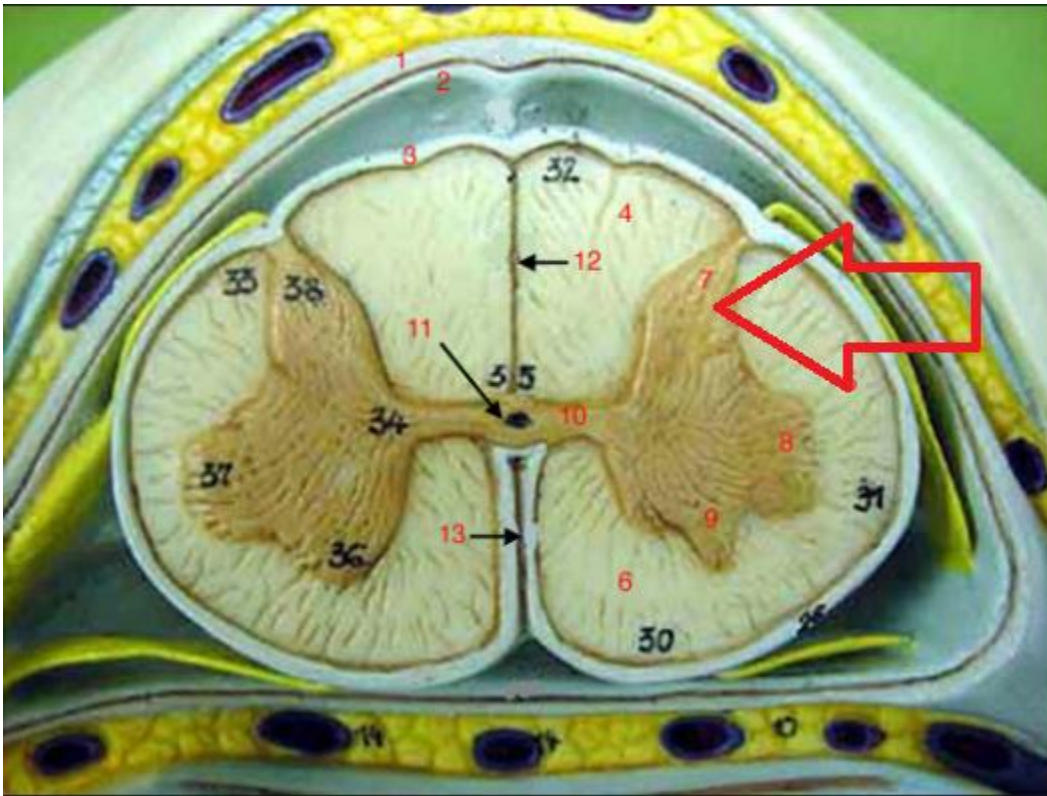
86-



87- MOTOR of HEAD region : A



88- Dorsal gray horn



89- If you are one of who attended the anatomy lab, what is the structure that the doctor clarify by using this bag ? Hippocampus .. حتى الي حضروا ما جاوبوا ^^



90- Acid fast stain



91- Group B streptococcus





- 92- This phenomena called Satellitism occurs with gram negative coccobacillus. This microorganism will grow on which of the following media ? **Chocolate agar**



- 93- **Lab physio** : Which of the following is NOT correct regarding muscle tone :  
**To test the tone of flexor muscles, exam starts with muscles of full extension**
- 94- **Lab physio** : Which of the following is correct regarding EMG :  
**it is usually performed along with nervous conduction studies NCS**
- 95- **Lab physio** : The expected normal response to **achilis reflex** is :  
**a smooth rapid plantar flexion of the foot**
- 96- **Lab physio** : **Which of the following is** Not correct regarding **Babinski reflex** :  
**it includes plantar flexion of the big toe**

sorry for any mistake

**Collected By : Ammar Al-Zubeidy**

♥ دعواتكم