

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

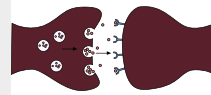


Past Papers

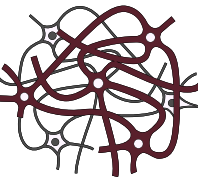
MID | Lecture (1-5)

﴿ إِنِّي تَوَكَّلْتُ عَلَى اللَّهِ رَبِّي وَرَبِّكُمْ مَا مِنْ دَابَّةٍ إِلَّا هُوَ آخِذٌ بِنَاصِيَتِهَا إِنَّ رَبِّي عَلَى صِرَاطٍ مُسْتَقِيمٍ ﴾

Written by: Lubna Qasem
Layan Fawarseh



Reviewed by: Nour Elzogheir



بِسْمِ اللّٰهِ

Lecture 1

1. Which of the following means Collection of axon in the central nervous system?

A. Ganglion

B. Nerve

C. Nucleus

D. soma

E. Tract

2. The outer layer of connective tissue that surrounds the nerve is called:

- A. Epineurium
- B. Epithelium
- C. Glial cells
- D. Endoneurium
- E. Perineurium

3. The term "Mesencephalon" means :

- A. Pons
- B. Cerebellum
- C. Midbrain
- D. Medulla
- E. Cerebrum

4. The Dura matter extends from the level of the foramen magnum to the level of:

A. L2

B. S1

C. S2

D. S3

E. S4

5. Which of the following anchors spinal cord to coccyx:

- A. Denticulate ligament
- B. filum terminale
- C. Cauda equina
- D. Conus medullaris
- E. None of the above

6. Which following statements concerning the spinal cord is correct:

- A. The spinal cord has a cervical enlargement for the brachial plexus.
- B. The spinal cord possesses spinal nerves that are attached to the cord by anterior and posterior ram.
- C. In the adult, the spinal cord usually ends inferiorly at the lower border of the fourth lumbar vertebra.
- D. The ligamentum denticulatum anchors the spinal cord to the pedicles of the vertebra along each side.
- E. The central canal does not communicate with the fourth ventricle of the brain

7. Tracing an impulse from the brain to the effector organ, which of the following is NOT part of the motor pathway that will ultimately end in parasympathetic stimulation of the parotid gland:

- A. Motor nuclei in the hypothalamus
- B. Autonomic nuclei in the lateral horn gray matter
- C. A synapse outside the CNS
- D. A preganglionic neuron whose cell body is within the CNS
- E. A cranial nerve

8. In "fight or flight" conditions, the pupil of the eye dilates. The motor impulse that is initiated in the hypothalamus and ultimately causes this pupillary dilation can be best described by which of the following statements:

- A. The impulse will pass through upper and lower motor neurons
- B. No ganglia are present along the course of the impulse
- C. The impulse will pass through a synapse in autonomic nuclei in the brain stem
- D. The impulse will pass through the ventral root of a spinal nerve
- E. The impulse is mainly relayed to neurons in lamina 2 of spinal cord gray

9. The cell body of the lower motor neuron is located in?

- A. Ventral horn of the spinal cord.
- B. Dorsal horn of the spinal cord.
- C. Lateral horn of the spinal cord.
- D. Thalamus.
- E. Pyramids.

10. Which of these is not a part of Rhombencephalon:

- A. Cerebellum
- B. Pons
- C. Medulla oblongata
- D. Crus cerebri

11. Arachnoid matter ends at the level of:

- A. Between first and second lumbar vertebrae
- B. At the level of second sacral vertebra
- C. At the level of second lumbar vertebra
- D. At the level of first lumbar vertebra

12. The lower end of spinal cord called:

- A. Conus medullaris
- B. Filum terminale
- C. Cauda equina
- D. Lumbar enlargement

13. Which of the following represents the best level to take lumbar puncture?

A. S3-S4

B. L3-L4

C. L1-L2

D. T3-T4

E. S1-S2

14. Which of the following structures represents the tapered inferior end of the spinal cord?

- A. Filum terminale externum
- B. Conus medullaris
- C. Denticulate ligament
- D. Cauda equina
- E. Filum terminale internum

15. The Lateral horn of the spinal cord contains the cell bodies of:

- A. Upper motor neurons
- B. Second order neurons
- C. Lower motor neurons
- D. Preganglionic neurons
- E. Postganglionic neurons

16. The cluster of nerve cell bodies in central nervous system is called:

A. Tract

B. Epineurium

C. Nucleus

D. Nerve

E. Ganglion

17. Which of the following glial cells is responsible for the myelination of peripheral nerves?

A. oligodendrocytes

B. Schwann

C. astrocytes

D. microglia

E. ependymal

18. Concerning the glial cells, choose the Incorrect statement:

- A. Oligodendrocytes are responsible for myelination of peripheral nerves
- B. Microglia are phagocytic cells of the Central Nervous System
- C. Ependymal cells are lining the ventricles of the brain
- D. Astrocytes are forming the Blood brain barrier
- A. Schwann cells are derived from the neural tube

19. The dorsal root ganglion:

- A. Contains somatic motor cell bodies
- B. Contains parasympathetic cell bodies
- C. Is also called the lateral horn
- D. Contains visceral sensory and somatic sensory cell bodies
- E. Is attached to whit and gray rami communicantes

20. Choose the true statement:

- A. The arachnoid mater ends at S2
- B. The spinal cord has a cervical enlargement and a lumbosacral enlargement
- C. Cerebrospinal fluid (CSF) is found between the dura mater and arachnoid mater
- D. The bundle of spinal nerve roots in the subarachnoid space caudal to the termination of the spinal cord is called conus medullaris
- E. The spinal cord in the children ends at the level of L3

Ans: B is the safest option
A is also correct if meant S2
vertebrae and E can be correct if
we're taking about infants

21. Select the wrong statement:

- A. The pia mater is closely adherent to the spinal cord
- B. The denticulate ligaments are thickening of the dura mater
- C. The arachnoid mater lines the inner surface of the dura mater
- D. The pia mater continues below as the film terminale
- E. The dura mater ends at the level of the second sacral vertebra

22. Which statement about the spinal cord is false:

- A. The cervical spinal cord has 8 segments
- B. The lumbosacral enlargement of the spinal cord is called the conus medullaris
- C. Cell bodies of somatic motor nerves are located in the ventral horn
- D. There are 5 pairs of sacral spinal nerves
- E. The filum terminale attaches the inferior end of the spinal cord to the coccyx

23. Select the incorrect statement:

- A. When the fetus is three months old the length of the spinal cord is equal to the length of the vertebral canal
- B. At birth the spinal cord reaches the level of the third lumbar vertebra
- C. The dura mater end in the second lumbar vertebra
- D. As development proceeds the vertebral column grows faster than the spinal cord
- E. The spinal pia mater extends as the filum terminale

24. Which of the following statements is true:

- A. Cerebrospinal fluid (CSF) is found in the subdural space
- B. From superficial to deep, the order of the meningeal layers is: dura mater, pia mater and arachnoid mater
- C. The cauda equina is composed of ventral roots only
- D. Cerebrospinal fluid can be drawn from the sacral hiatus because the dural sac extends all the way down the coccyx
- E. Ventral and dorsal roots come together in the intervertebral foramina to form the spinal nerves which then subsequently branch into ventral and dorsal rami

25. Choose the correct statement regarding the meninges and associated spaces:

- A. The dura mater extends to as far as L2
- B. The pia mater gives rise to filum terminale externum
- C. A lumbar puncture needle penetrates all three meningeal layers
- D. Denticulate ligaments attach the outer two meningeal layers to the spinal cord
- E. CSF fills the space between arachnoid and dura mater

26. Regarding the spinal cord, which of the following is false:

- A. Cell bodies of sympathetic neurons lie in the lateral horn of the spinal gray matter from T1-L2
- B. In the typical adult the terminal end of the spinal cord lies within the vertebral canal at the level of vertebrae L1/L2
- C. Denticulate ligaments are lateral extensions of the arachnoid mater
- D. There are 31 segments of the spinal cord
- E. Dorsal root ganglia are outside the spinal cord

Lecture 2

1. Wrong about disk on L4 root:

- A. It affects knee jerk
- B. Sensory is affected in anteromedial leg aspect
- C. It is the most common disk
- D. Extension of the knee is affected because quadriceps femoris

2. A 40 years old worker suffered from lower back pain in the gluteal region, physical examination revealed a sensory defect in the anterolateral aspect of his leg. Also, the patient can't stand on his heels. The patient has a herniated disc in what region:

ANSWER : L5

3. Which of the following is the most common direction of Disc herniation:

- A. Posteromedial direction
- B. Anteromedial direction
- C. Superior direction
- D. Anterolateral direction
- E. Posterolateral direction

4. A patient presents with lower back pain that radiates to the back of his thigh. He is unable to stand on his heels and reports abnormal sensations across the anterolateral aspect of his leg. MRI scans confirm the diagnosis of a herniated disc. The most likely affected nerve root emerges from the vertebral column directly:

- A. under vertebra L4
- B. above vertebra L4
- C. above vertebra L5
- D. above vertebra S1
- E. A and C

5. If the knee jerk is lost, which of the following roots is most likely affected:

A. L3

B. L4

C. S1

D. S2

E. L5

6. Regarding disc herniation, all of the following are true EXCEPT:

- A. If the disc between L4 / L5 is herniated sensory changes will likely occur at the medial border of leg
- B. S1 spinal nerve is tested by asking the patient to stand on his tiptoes
- C. If the spinal nerve L4 is compressed by a herniated disc knee jerk will be lost
- D. If the spinal nerve S1 is compressed by a herniated disc gastrocnemius muscle will be weakened
- E. It may cause low back pain radiating to the gluteal region and the back of their thigh

7. A patient presents with lower back pain that radiates to the back of his thigh and reports abnormal sensations across the lateral side of the foot, The patient has a herniated disc in what region?

- A. L5
- B. L4
- C. S1

8. Which of the following spinal nerves is tested by asking the patient to stand on his heels?

A. L5

B. S3

C. S2

D. S1

E. L2

Lecture 3

1. Lesion of lateral spinothalamic tract on the right side will cause:

- A) Ipsilateral loss of pain and temperature
- B) Contralateral loss of pain and temperature
- C) Ipsilateral paralysis
- D) Contralateral loss of vibration
- E) Bilateral anesthesia

Ans: B

2. Which of the following statements is wrong about the lateral spinothalamic tract:

- A. Cell bodies of the 3rd order neurons are present in the VPL nucleus
- B. A lesion in the tract will lead to ipsilateral loss of pain and temperature sensations below the lesion

3. Which of the following represents the modality of posterior column medial lemniscal pathway?

A. Discriminative touch

B. Temperature

C. Crude touch

D. Pain

4. Which of the following represents the function of Posterior White Column-Medial Lemniscal Pathway:

A. Temperature

B. Pain

C. Conscious Proprioception

D. Crude touch

E. Unconscious Proprioception

Q5. Which of the following represents the modality of the lateral spinothalamic tract?

A. Unconscious Proprioception

B. Vision

C. pain

D. Discriminative Touch

E. Conscious Proprioception

Q6. the dorsolateral tract of Lissauer carries:

- A. pain and temperature.
- B. Simple touch.
- C. Discriminative touch.
- D. Conscious proprioception.
- E. Unconscious proprioception.

Q7. Wrong about lateral spinothalamic:

- A. It is early crossed by anterior white commissure
- B. Has wide spread cortical region
- C. Synapse in ventral posteromedial nucleus of the thalamus
- D. Related to pain and temperature

Q8. Which of the following represents the location second order neuron of the lateral spinothalamic tract:

A. Thalamus

B. Substantia gelatinosa of spinal cord

C. Dorsal root ganglia

D. Medulla

E. Nucleus Gracilis

Q9. One of the following structures is important to recognize the position of the lower limbs:

- A. the medial lemniscus.
- B. the dorsal spinocerebellar tract.
- C. the spinothalamic tract.
- D. the ventral spinocerebellar tract.
- E. the gracile tract.

Q10. the internal arcuate fibers arise from the:

- A. gracile and cuneate nuclei.
- B. solitary nucleus.
- C. accessory cuneate nucleus.
- D. nucleus dorsalis of Clarke.
- E. spinal trigeminal nucleus.

Q11. Which of the following structures is responsible for the interpretation of the emotional aspect of Pain:

- A. Occipital lobe
- B. Cingulate gyrus
- C. Insula
- D. Midbrain
- E. Reticular formation

Q12. All of the following statements apply to first order neurons that transmit discriminative tactile sensations from the arm EXCEPT:

- A. In the spinal cord, they ascend in the dorsal white column
- B. They synapse with 2nd order neurons in nucleus cuneatus
- C. They form internal arcuate fibers as they decussate
- D. They are pseudounipolar neurons
- E. None of the above

Q13. Lamina 3 and 4 of grey matter of spinal cord contains:

- A. Intermedio-medial nucleus
- B. Intermedio-lateral nucleus
- C. Nucleus proprius
- D. Substantia gelatinosa
- E. Dorsal nucleus of Clark's

Q14. Regarding posterior white column medial lemniscal pathway, choose the **WRONG statement:**

- A. Sensory fibers used in this system are faster than those used in the anteriolateral system (ALS)
- B. Fasciculus cuneatus transmits information coming from areas inferior to T6
- C. Lesion of this tract will result in loss of discriminative touch below the level of the lesion on the ipsilateral side of the body
- D. This system employs most receptors except free nerve endings
- E. Nucleus gracilis and nucleus cuneatus represent the location of the cell body of the second order neurons

Q15. A 29 year old patient was investigated at the neurology clinic, and it was noted that she lacks the 'two point discrimination' ability in her left hand. What is the most likely cause of such a presentation:

- A. Fasciculus cuneatus lesion on the right side of the spinal cord at the level of C2.
- B. Dorsal column lesion on the right side of the spinal cord at the level of C5.
- C. Medial lemniscus lesion in the right side of the pons.
- D. Fasciculus gracilis lesion in the right side of the medulla.
- E. Spinothalamic lesion on the right side of the spinal cord.

Q16. In the dorsal horn-medial lemniscal pathway, the cell bodies of the first, second, and third order neurons are located in, respectively:

- A. Dorsal column, nucleus gracilis or cuneatus, thalamus
- B. Dorsal horn, hindbrain, forebrain
- C. Dorsal horn, medulla oblongata, prosencephalon
- D. Dorsal root ganglia, rhombencephalon, telencephalon
- E. Dorsal root ganglia, brain stem, diencephalon

Q17. During a neurological examination, a patient cannot tell with his eyes closed whether the neurologist flexed or extended his toe, there is likely damage to:

- A. The anterolateral spinothalamic system pathway.
- B. The precentral gyrus of the cerebral cortex.
- C. The ventral (anterior) of the spinal cord.
- D. The dorsal column medial lemniscal pathway.
- E. Central canal of the spinal cord enlargement (syringomyelia)

Q18. Consider the sensory pathways for the following two sensations:

(1) Discriminative touch sensations from the left foot

(2) Heat sensations from the right leg

Choose the correct statement:

- A. Pathways for both sensations ascend in the right half of the spinal cord
- B. Both pathways include a synapse in nucleus gracilis
- C. The first sensation is transmitted to the right frontal lobe, while the second is transmitted to the left frontal lobe
- D. A right hemisection in the spinal cord at the level of the C4 segment would spare (preserve) both sensations
- E. Both pathways include a synapse in substantia gelatinosa

Q19. Regarding the Lateral spinothalamic tract, choose the WRONG statement:

- A. The cell bodies of its second order neuron is located in the dorsal horn (substantia gelatinosa)
- B. The cell bodies of its third order neuron is located in the thalamus
- C. It is located in the lateral column of the spinal cord
- D. The cell bodies of its first order neuron is located in the dorsal root ganglia
- E. It transmits the sensation of fine touch

Q20. The cerebral area which is responsible for receiving sensations from the right hand is located in:

- A. Left postcentral gyrus.
- B. Left precentral gyrus.
- C. Right precentral gyrus
- D. Right postcentral gyrus
- E. Supplementary sensory area

Q21. Regarding lateral spinothalamic tract. choose the wrong statement:

ANSWER: lesion of the ascending tract lose the sensation ipsilateral.

Q22. According to lateral spinothalamic tracts, which of the following is wrong?

ANSWER: The cell bodies of the 3rd order neuron are present in the medulla

Q23. Right fasciculus cuneatus lesion will lead to:

ANSWER: Right upper limb will be affected

Q24. An MRI. Showed lesion to Right gracilis, this patient is mostly like suffering of which of the following:

ANSWER: Loss of vibration from right lower limb

Lecture 4

1. Which of the following tracts provides afferent information for spinovisual reflex:

- A) Anterior spinothalamic
- B) Lateral spinothalamic
- C) Posterior spinocerebellar
- D) Anterior spinocerebellar
- E) Spinotectal

Ans: E

2. The posterior horn of the spinal cord contains the following nuclei except:

- A) Nucleus dorsalis
- B) Gracile
- C) Proprius
- D) Substantia gelatinosa
- E) Afferent visceral

Ans: B

3. Second order neuron of Posterior spinocerebellar tract will enter cerebellum through:

- A) Superior cerebellar peduncle
- B) Middle cerebellar peduncle
- C) Inferior cerebellar peduncle
- D) Crus cerebri
- E) None of the above

Ans: C

4. Which of the following statements concerning the nucleus of termination of the tracts listed below is correct:

- A) The posterior white column tracts terminate in the inferior colliculus.
- B) The spinoreticular tract terminates on the neurons of the hippocampus.
- C) The spinotectal tract terminates in the inferior colliculus.
- D) The anterior spinothalamic tract terminates in the ventral posterolateral nucleus of the thalamus.
- E) The anterior spinocerebellar tract terminates in the dentate nucleus of the cerebellum.

Ans: D

5. Which of the following statements concerning the white columns of the spinal cord is correct:

- A) The posterior spinocerebellar tract is situated in the posterior white column.
- B) The anterior spinothalamic tract is found in the anterior white column.
- C) The lateral spinothalamic tract is found in the anterior white column.
- D) The fasciculus gracilis is found in the lateral white column.
- E) The rubrospinal tract is found in the anterior white column.

Ans: B

6. The pathway that descends from brain stem to the spinal cord to excite pain inhibitory interneurons secretes:

- A) Endorphin
- B) Enkephalin
- C) Serotonin
- D) Substance P

Ans: C

7. One of the following statements relate sensations with the appropriate nervous pathways:

- A) Two-point tactile discrimination travels in the lateral spinothalamic tract.
- B) Pain travels in the anterior spinothalamic tract.
- C) Unconscious muscle joint sense travels in the anterior spinocerebellar tract.
- D) Pressure travels in the posterior spinothalamic tract.
- E) Vibration travels in the posterior spinocerebellar tract.

Ans: C

8. Which of the following applies to both the anterolateral pathway and dorsal column-medial lemniscal pathway:

- A) Decussation occurs before reaching the brain stem
- B) First synapse occurs in dorsal root ganglia
- C) Main sensory receptors are free nerve endings
- D) Contralateral loss of sensation occurs as a result of a hemisection above the level of the medulla
- E) Two of the above

Ans: D

9. Which brain structure plays a pivotal role in the descending control of pain?

- A) Periaqueductal gray
- B) Corpus callosum
- C) Hippocampus
- D) Basal ganglia
- E) Substantia nigra

Ans: A

10. Which nuclei are responsible for the transmission of visceral pain?

- A) Intermedio-medial nucleus
- B) Dorsal nucleus of Clarke
- C) Raphe nucleus
- D) Locus coeruleus

Ans: A

11. What distinguishes the anterior spinocerebellar tract from the posterior spinocerebellar tract?

- A) The termination point in the cerebellum
- B) The type of sensory input transmitted
- C) The direction of axon crossing in the spinal cord
- D) The neurotransmitters involved in signal transmission
- E) The speed of transmission along the tract

Ans: C

12. What is the mechanism underlying referred pain?

- A) Convergence theory
- B) Divergence theory
- C) Gate control theory
- D) Opioid modulation
- E) Nociceptive inhibition

Ans: A

13. The first-order neuron axons of the posterior spinocerebellar tract terminate at:

Answer: Clark's nucleus

14. Which of the following tracts provides afferent information for spinovisual reflexes?

- A) Anterior spinocerebellar tract
- B) Spinotectal tract
- C) Posterior spinocerebellar
- D) Anterior spinothalamic tract
- E) Posterior white column–medial lemniscal tract

Ans: B

15. Regarding spinocerebellar tracts, choose the WRONG statement:

- A) 1st order neuron axons terminate at the nucleus dorsalis of dorsal gray horn
- B) The majority of fibers of the anterior spinocerebellar tract enter cerebellum through superior cerebellar peduncle
- C) Fibers of these tracts will finally reach the ipsilateral cerebellar cortex
- D) Fibers of the posterior spinocerebellar tract enter cerebellum through middle cerebellar peduncle
- E) Convey proprioceptive information from skeletal muscles and joints

Ans: D

16. What kind of sensation does the spinocerebellar tract transmit:

- A) Unconscious proprioception
- B) Pain & Temperature sensation
- C) General sensation

Ans: A

17. Crude touch is the modality of which tract:

- A) Anterior spinothalamic tract
- B) Lateral spinothalamic tract
- C) Posterior white column medial lemniscal pathway
- D) Spinotectal tract

Ans: A

Lecture 5

1. Wrong about Extrapyramidal tracts:

- A) Medullary reticulospinal is in lateral white column
- B) Vestibulospinal tracts are uncrossed
- C) Rubrospinal tract isn't tonically active

Ans: key answer was C but clearly all the statements are correct

2. Select the incorrect statement:

- A) The crossed pyramidal tract lies in the lateral white matter of the spinal cord
- B) The fibers of the uncrossed pyramidal tract lie in the anterior white matter of the spinal cord
- C) The cortico-spinal tract lies in the anterior limb of the internal capsule
- D) The uncrossed pyramidal tract constitutes about 10–20% of the fibers of the original pyramidal tract when it lies in the pyramid
- E) The pyramidal decussation lies in the lower part of the medulla

Ans: C

3. Which of the following tracts has descending autonomic fibers providing a pathway by which the hypothalamus can control the sympathetic and sacral parasympathetic outflow:

- A) Rubrospinal tracts
- B) Tectospinal tracts
- C) Vestibulospinal tracts
- D) Anterior corticospinal tract
- E) Reticulospinal tracts

Ans: E

4. Which of the following statements regarding the role of brainstem in control of motor function is true:

- A) Pontine reticulospinal tract excites limb muscles
- B) Pontine reticulospinal tract inhibits axial muscles
- C) Vestibulospinal tract inhibits antigravity muscles
- D) Medullary reticulospinal tract inhibits pontine reticulospinal tract
- E) Pontine reticulospinal tract is located in the lateral column of the spinal cord

Ans: D

5. Regarding the Lateral corticospinal tract, choose the WRONG statement:

- A) This tract is a pyramidal tract
- B) In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- C) This tract passes through the basilar part of pons
- D) Their function is subconscious regulation of balance and muscle tone
- E) This tract decussates to the opposite side in the lower part of medulla

Ans: D

6. Which of the following tracts controls reflex movement of the head in response to visual stimuli:

- A) Vestibulospinal tract
- B) Rubrospinal tract
- C) Reticulospinal tract
- D) Olivospinal tract
- E) Tectospinal tract

Ans: E

7. The majority of fibers of the Lateral corticospinal tract synapse:

- A) Thoracic region
- B) Cervical region
- C) Coccygeal region
- D) Lumbar region
- E) Sacral region

Ans: B

8. Numbered below are various descending motor tracts:

1. Lateral corticospinal tract
2. Rubrospinal tract
3. Vestibulospinal tract
4. Medullary reticulospinal tract

Choose the correct statement:

- A) 1 and 2 cross the midline in the brain stem
- B) Cell bodies of tract 2 are located in the superior colliculus
- C) 3 and 4 both help maintain an upright position
- D) 3 and 4 descend in the anterior white column
- E) 1,2,3 and 4 all descend in the lateral white column

9. Regarding Anterior corticospinal tract, choose the WRONG statement:

- A) It acts on the proximal (axial) muscles
- B) It passes through the basilar part of the pons
- C) In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- D) 55% of its fibers synapse in the upper cervical region
- E) Its fibers will descend on the same (ipsilateral) side of the cord

10. Choose the incorrect pair (tract – level of decussation):

- A) Lateral corticospinal tract – medulla
- B) Tract for pain sensation from the arm – spinal cord
- C) Rubrospinal tract – brain stem
- D) Pontine reticulospinal tract – spinal cord
- E) Posterior spinocerebellar tract – no decussation

11. Regarding Extrapyramidal tracts, choose the WRONG statement:

- A) Vestibulospinal tract facilitates the activity of antigravity muscles
- B) Pontine reticulospinal tract descend uncrossed into the spinal cord
- C) Rubrospinal tract is part of the lateral motor system
- D) Tectospinal tract descends in the anterior white column close to anterior median fissure
- E) Medullary reticulospinal tract is tonically active

Ans: E

12. Which of the following statements regarding the course taken by the tracts is correct:

- A) The rubrospinal tract crosses the midline in the medulla oblongata
- B) The tectospinal tract crosses the midline in the posterior commissure
- C) The vestibulospinal tract crosses the midline in the midbrain
- D) The lateral corticospinal tract has crossed the midline in the medulla oblongata
- E) The anterior corticospinal tract crosses the midline in the midbrain

Ans: D

13. Regarding Rubrospinal tract, choose the WRONG statement:

- A) Located in the anterior white column
- B) It is crossed
- C) Facilitate the activity of flexors
- D) Its fibers descend from red nucleus
- E) Inhibit the activity of extensors

Ans: A

14. Regarding Extrapyramidal tracts, choose the WRONG statement:

- A) Vestibulospinal tract facilitates the activity of antigravity muscles
- B) Rubrospinal tract mainly supply the distal extensors muscles with little effect on the proximal muscles
- C) Tectospinal tract is responsible for reflex movement of head & neck in response to visual stimuli
- D) Medullary reticulospinal tracts runs in the lateral white column
- E) Pontine reticulospinal tract is tonically active

Ans: B

15. Regarding Pontine reticulospinal tract, choose the WRONG statement:

- A) Its fibers descend from reticular formation of the pons
- B) It is tonically active
- C) It is normally under inhibition from cortex
- D) Located in the anterior white column
- E) It activate the axial and proximal limb flexors

Ans: E

16. Regarding Corticospinal tracts choose the WRONG statement:

- A) The vast majority of fibers will decussate to the opposite side in the lower part of medulla forming the lateral corticospinal tract
- B) In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- C) It passes through the basilar part of the pons
- D) The anterior corticospinal tract acts on the proximal (axial) muscles
- E) 55% of lateral corticospinal tract fibers synapse in the thoracic region

Ans: E

17. The cerebral area which is responsible for production of fine movements of hand is located:

- A) In the superior temporal gyrus
- B) Behind the central sulcus
- C) On the medial surface of the brain
- D) In the occipital lobe
- E) In front of the central sulcus

Ans: E

18. Regarding Premotor area, All of the following are true EXCEPT:

- A) Lesions of this area alone produce more severe paralysis than destruction of primary motor area
- B) It receives numerous inputs from the sensory cortex, the thalamus and the basal ganglia
- C) It uses cues for the selection of appropriate action
- D) It is involved in controlling coarse postural movements
- E) It is located anterior to the primary motor area

19. Regarding pyramidal tract choose the wrong statement:

Answer: That control axial muscle crosses the midline in the lower part of the medulla oblongata

20. Wrong about motor cortex:

Answer: Connected to ipsilateral body

21. Which of the following is wrong?

A) Medullary reticulospinal facilitates the activity of axial muscle

B) Medullary reticulospinal system is considered an anterior spinal system

Ans: B

Key answer is B but both are incorrect (it facilitates the activity of flexors and inhibits extensors/axial muscles)

22. What's the function of the Rubrospinal tract:

- A) Inhibit the axial and proximal limb extensors
- B) Facilitate the activity of extensors muscles and inhibit the activity of flexor muscles
- C) Facilitate the activity of flexors and inhibit the activity of extensors
- D) Activate the axial and proximal limb extensors

23. One of the following tracts has no crossing:

A) Vestibulospinal

B) Rubrospinal

C) Tectospinal

Ans: A

24. Regarding Corticospinal tracts, choose the WRONG statement:

- A) It passes through the basilar part of the pons
- B) In the midbrain they pass through the middle three fifths of the basis pedunculi of the midbrain
- C) 55% of lateral corticospinal tract fibers synapse in the cervical region
- D) The vast majority of fibers will decussate to the opposite side in the lower part of pons forming the lateral corticospinal tract
- E) The anterior corticospinal tract acts on the proximal (axial) muscles

25. The pyramidal tract is represented mainly in:

- A) Area 6
- B) Area 132
- C) Area 4
- D) Area 21
- E) Area 43

Ans: C

26. Wrong about central cord syndrome:

- A) May be caused by hyperextension of the neck
- B) Occlusion in anterior spinal artery
- C) Lower limbs are more affected than upper
- D) Bilateral ALS + some autonomic loss

27. 13 years old visited neurologic clinic his main complaint was loss of temperature sense, which caused him many skin burns during his work in the university cafeteria. Physical examination revealed sensory defect on both upper limbs and shoulder, no motor defect detected. This patient most likely suffered from:

Answer: Syringomyelia

28. A patient with a traumatic lesion of the left half of the spinal cord at the level of the eighth cervical segment might present with:

- A) Loss of pain and temperature sensations on the left side below the level of the lesion
- B) Loss of position sense of the right leg
- C) Right hemiplegia
- D) Left positive Babinski sign
- E) Right-sided lower motor paralysis in the segment of the lesion and muscular atrophy

Ans: D

29. Choose the wrong sentence about decerebrate and decorticate:

- A) Both will cause extension of lower limb
- B) Decerebrate will cause extension of upper limb
- C) Decerebrate have better prognosis
- D) Decorticate will cause flexion of upper limb

Ans: C

30. All of the following are associated with Brown-Sequard syndrome EXCEPT:

- A) Ipsilateral loss of proprioception and sense of vibration below the level of the lesion
- B) Ipsilateral spastic paralysis below the level of the lesion
- C) Contralateral anesthesia
- D) Ipsilateral loss of all touch sensations below the level of the lesion
- E) Loss of all modalities of sensation and flaccid paralysis at the level of the lesion

Ans: D

31. Wrong about Brown-Sequard syndrome:

- A) Causes loss of ALS above the lesion
- B) Causes loss of PCML ipsilateral at the same level and below
- C) Affects motor (causes motor weakness) ipsilateral

32. A left hemisection at the level of the C4 spinal segment (Brown-Sequard syndrome) is associated with which of the following:

- A) Loss of discriminative touch in the right lower limb
- B) Damage to the lateral corticospinal tract originating from the right frontal lobe
- C) Paralysis of facial muscles on the right side
- D) Loss of pain and temperature sensations from the left lower limb
- E) None of the above

Ans: B

33. The initial resistance observed in the Clasp knife reaction is due to:

- A) Exaggerated stretch reflex
- B) Lost stretch reflex
- C) Exaggerated Golgi tendon reflex
- D) Lost Golgi tendon reflex
- E) None of the above

Ans: A

34. All of the following are characteristics of lower motor neuron lesion EXCEPT:

- A) Flaccid paralysis
- B) Hypotonia
- C) Clasp knife reaction
- D) Hyporeflexia
- E) Muscle atrophy

Ans: C

35. All of the following are symptoms of upper motor neuron lesions EXCEPT:

- A) Hyperreflexia
- B) Hypertonia
- C) Wasting / Atrophy of muscle
- D) Clasp knife reaction
- E) Clonus

Ans: C

36. Regarding Syringomyelia affecting C4 to C5 levels, choose the WRONG statement:

- A) Bilateral loss of pain and temperature
- B) Loss of vibration sense
- C) Motor weakness may appear later
- D) Affects anterior white commissure
- E) Cape-like distribution

Ans: B

37. Regarding Central Cord Syndrome, choose the WRONG statement:

- A) Upper limbs more affected than lower limbs
- B) Caused by hyperextension injury
- C) Bilateral loss of pain and temperature
- D) Pure LMN lesion
- E) May affect bladder function

Ans: D

38. The union of the two vertebral arteries forms:

- A) Posterior spinal artery
- B) Basilar artery
- C) Anterior spinal artery
- D) Internal carotid artery
- E) Circle of Willis

Ans: B

39. All of the following are symptoms of upper motor neuron lesions EXCEPT:

- A) Hyperreflexia
- B) Clonus
- C) Fasciculation
- D) Babinski sign
- E) Spasticity

Ans: C

40. Which of the following is characteristic of upper motor neuron lesion?

- A) Flaccidity
- B) Hyporeflexia
- C) Hyperreflexia
- D) Fasciculation
- E) Severe muscle atrophy

Ans: C

41. Which of the following about central cord syndrome is wrong?

- A) More weakness in upper limbs
- B) Caused by anterior spinal artery lesion
- C) Bilateral segmental loss of pain and temperature
- D) Pure posterior column lesion
- E) Can cause bladder dysfunction

Ans: D

42. Which of the following is characteristic of lower motor neuron lesion:

- A) Spasticity
- B) Hyperreflexia
- C) Fasciculation
- D) Clonus
- E) Babinski sign

Ans: C

43. The wrong statement about the lateral corticospinal tract:

- A. Most fibers are from Brodman area six of the cortex
- B. Acts on muscles of skilled movement
- C. fibers descend on the contralateral side
- D. passes through the basilar pons
- E. 55% of fibers synapse in the cervical segment

44. Anterior spinal artery is branch from:

- A) Basilar artery
- B) Vertebral arteries
- C) Internal carotid artery
- D) Posterior spinal artery
- E) Common carotid artery

Ans: B

45. With regards to the spinal cord blood supply, choose the correct statement:

- A) Posterior spinal arteries supply anterior 2/3
- B) Anterior spinal artery supplies posterior column
- C) Artery of Adamkiewicz supplies lower spinal cord
- D) Vertebral artery supplies lumbar region directly
- E) None

Ans: C

46. All of the following are characteristics of upper motor neuron lesion EXCEPT:

- A) Hypertonia
- B) Hyperreflexia
- C) Muscle atrophy
- D) Babinski sign
- E) Clonus

Ans: C

47. When stimulating the sole, a positive Babinski sign means:

- A) Flexion of toes
- B) Extension of big toe
- C) No response
- D) Plantar flexion
- E) Withdrawal reflex

Ans: B

48. Regarding blood supply of the spinal cord, choose the WRONG statement:

- A) Anterior spinal artery supplies anterior 2/3
- B) Posterior spinal arteries are two
- C) Artery of Adamkiewicz arises from thoracic region
- D) Vertebral arteries unite to form anterior spinal artery
- E) Segmental arteries reinforce spinal arteries

Ans: D

49. Which of the following enters the foramen magnum?

- A) Internal carotid artery
- B) Vertebral arteries
- C) External carotid artery
- D) Middle meningeal artery
- E) Basilar artery

Ans: B

50. The wrong statement regarding the blood supply is:

- A) Posterior spinal artery supplies anterior horn
- B) Anterior spinal artery supplies anterior horn
- C) Vertebral arteries form basilar artery
- D) Artery of Adamkiewicz reinforces anterior spinal artery
- E) Segmental arteries contribute

Ans: A

51. All of the following regarding UMNL signs are correct EXCEPT:

- A) Hyperreflexia
- B) Spasticity
- C) Fasciculation
- D) Babinski sign
- E) Clonus

Ans: C

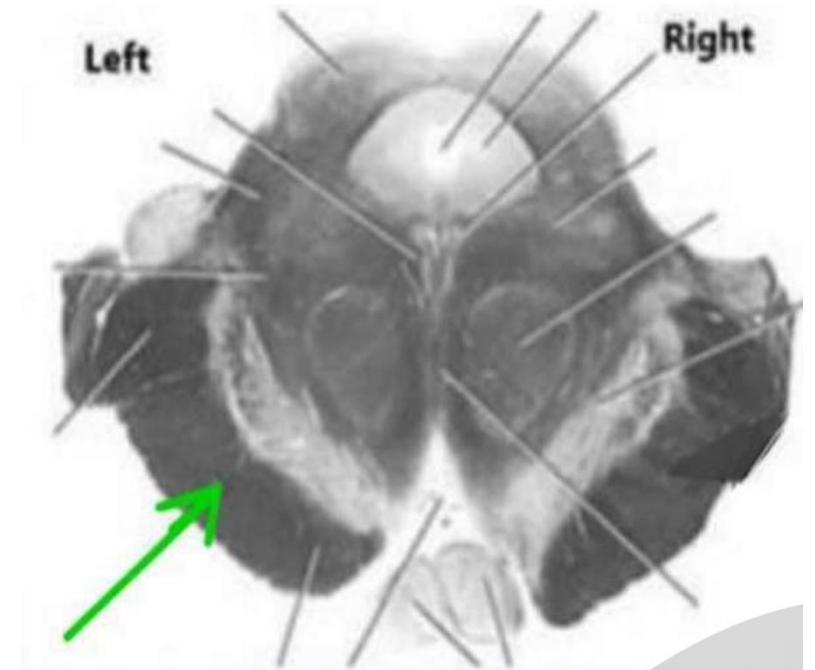
52. All of the following is true except?

ANSWER: Dorsal nucleus of the vagus nerve is present in the deep reticular formation

Spinal Cord Lab Questions

2) The pointed area contains mainly:

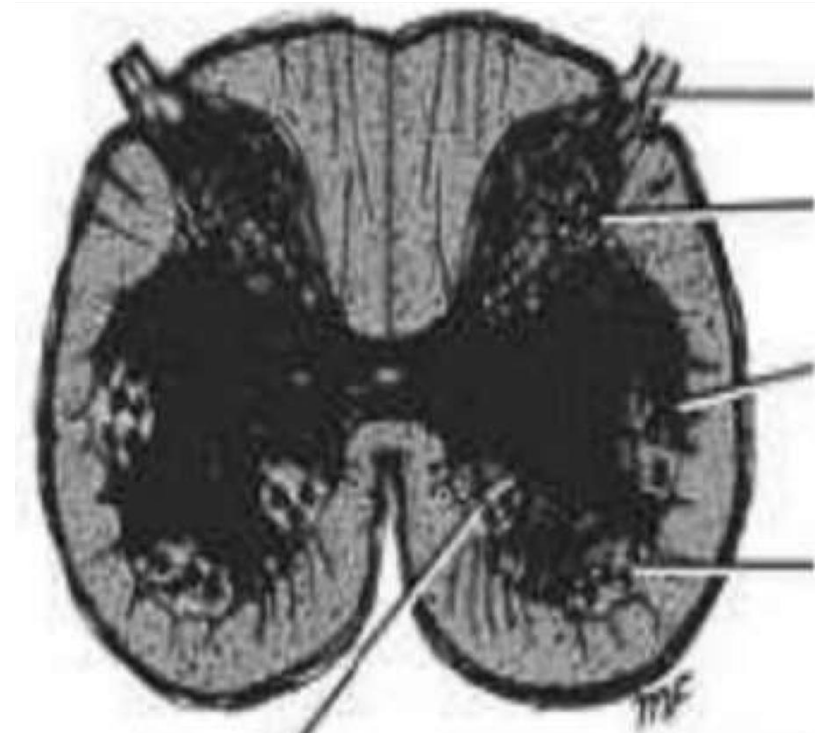
- A) Right pyramid
- B) Proprioceptive fibers from right side of body
- C) Corticospinal fibers that control right side of body
- D) Proprioceptive fibers from left side of body
- E) Corticospinal fibers that control left side of body



Ans: C

3) This cross section is taken at level:

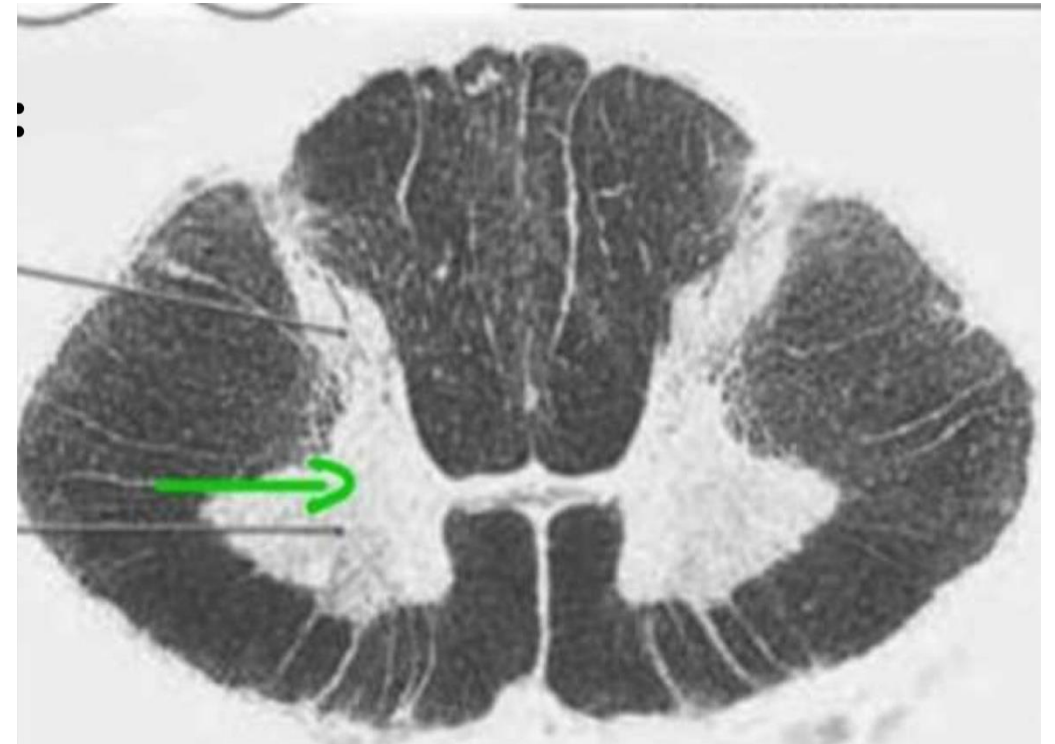
- A) C5
- B) T6
- C) L3
- D) S3



Ans: D

4) The cell bodies in the pointed area are cells of:

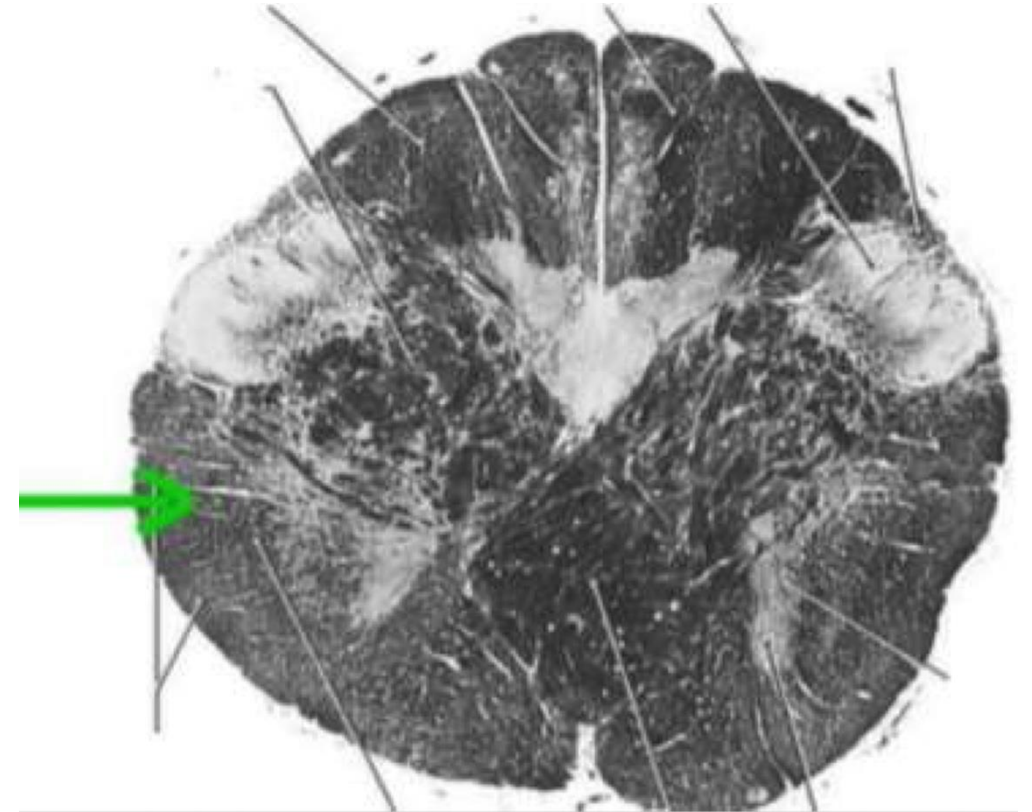
- A) Upper motor neurons
- B) Lower motor neurons supplying upper extremities
- C) Preganglionic sympathetic neurons
- D) Sensory neurons



Ans: B

5) The pointed area contains mainly:

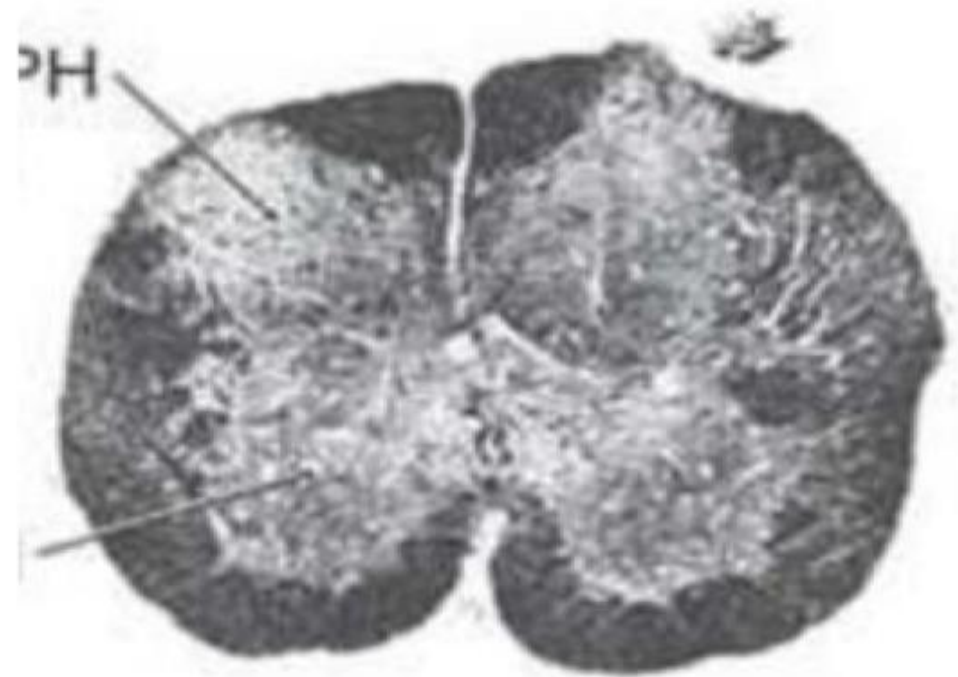
- A) Spinothalamic tract
- B) Corticospinal tract
- C) Fasciculus gracilis
- D) Posterior spinocerebellar tract



Ans: D

6) Identify this section:

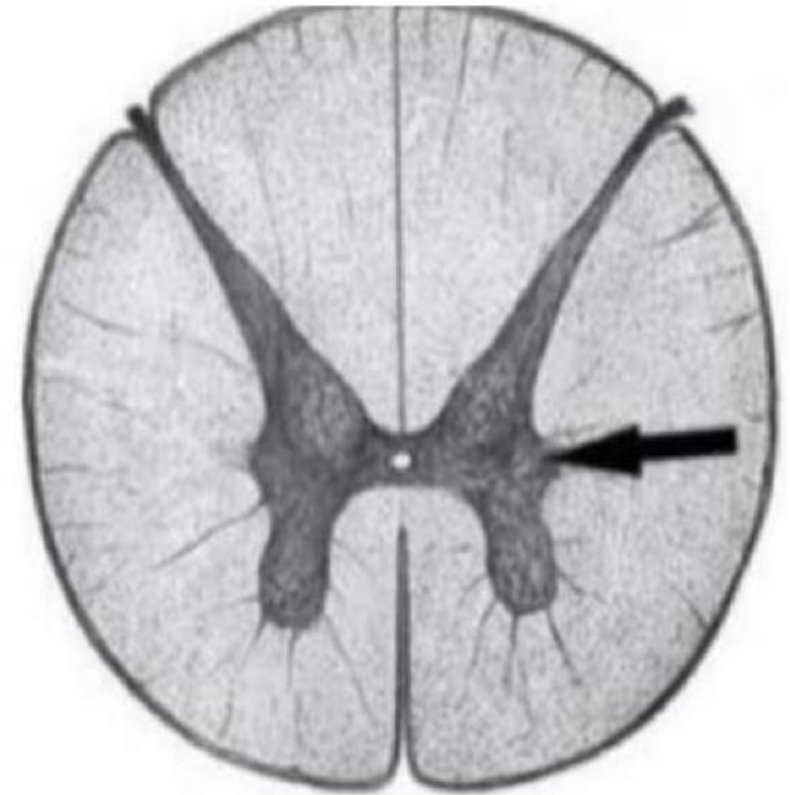
- A. Cervical.
- B. Thoracic.
- C. Lumbar.
- D. Sacral.
- E. None of the above.



Ans: D

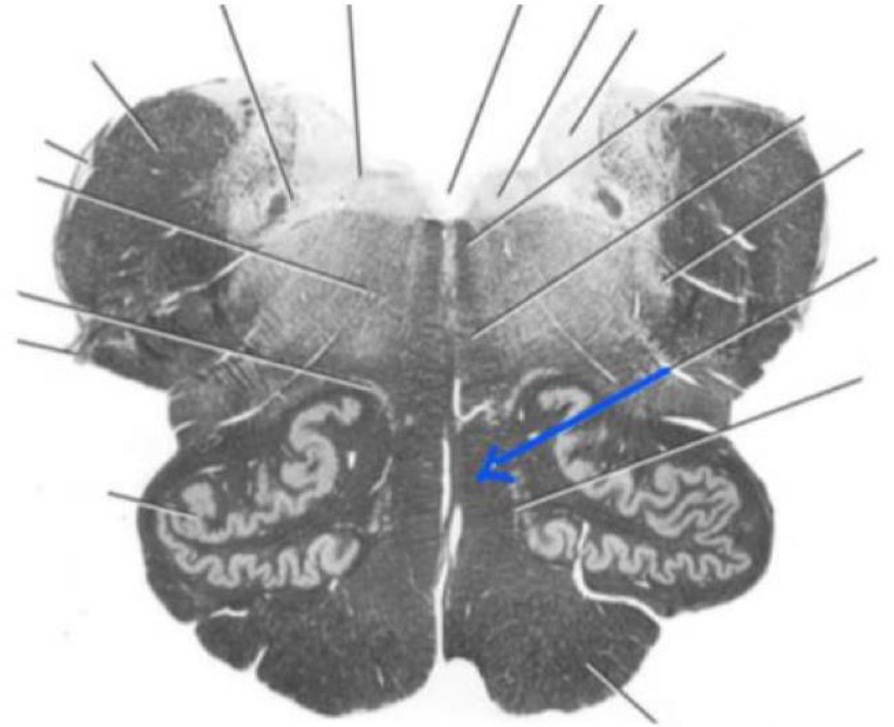
7) The cell bodies in the pointed area are:

- A. Post ganglionic parasympathetic neurons
- B. 1st order sensory neurons
- C. Preganglionic sympathetic neurons
- D. Lower motor neurons
- E. Preganglionic parasympathetic neurons



Ans: C

8) Damage to this area causes which of the following:



Answer: Loss of pain, temperature and proprioception on the right side.

External Resources

رسالة من الفريق العلمي

اللهم إن عمر عطية في ذمتك وحبل جوارك، فقه من فتنة القبر وعذاب النار،
أنت أهل الوفاء والحق، فاغفر له وارحمه إنك أنت الغفور الرحيم.

For any feedback, scan the code or click on



Corrections from previous versions:

Versions	Slide # and Place of Error	Before Correction	After Correction
V0 → V1			
V1 → V2			