

Lec 8

Quiz: Internal Features of the Brainstem (Medulla & Pons)

1. The **gracile and cuneate nuclei** receive which type of sensory information?
 - A) Pain and temperature
 - B) Proprioception, discriminative touch, and vibration
 - C) Equilibrium and balance
 - D) Motor signals from the cortex

Answer: B

2. The **inferior olivary nucleus** is mainly involved in:
 - A) Visual processing
 - B) Auditory processing
 - C) Cerebellar control of movement
 - D) Reflex control of respiration

Answer: C

3. The **accessory cuneate nucleus** primarily receives proprioceptive information from:

- A) Lower limb
- B) Upper limb
- C) Trunk
- D) Head and neck

Answer: B

4. The **medial lemniscus** is formed by the crossing of fibers from:

- A) Inferior olivary nucleus
- B) Gracile and cuneate nuclei
- C) Spinal trigeminal nucleus
- D) Vestibular nuclei

Answer: B

5. The **reticular formation** plays a role in:

- A) Alertness and arousal
- B) Motor coordination
- C) Autonomic functions
- D) All of the above

Answer: D

6. The **spinal nucleus of the trigeminal nerve** is responsible for processing:

- A) Pain and temperature sensations from the face
- B) Proprioception from the limbs
- C) Visual reflexes
- D) Taste sensation

Answer: A

7. The **nucleus solitarius** is responsible for:

- A) Motor control of facial muscles
- B) Taste sensation and visceral sensory input
- C) Equilibrium and balance
- D) Coordination of eye movements

Answer: B

8. The **nucleus ambiguus** supplies motor fibers to:
- A) Extraocular muscles
 - B) Muscles of the tongue
 - C) Muscles of the pharynx, larynx, and soft palate
 - D) Diaphragm

Answer: C

9. A lesion in the **hypoglossal nucleus** would result in:
- A) Contralateral tongue paralysis
 - B) Ipsilateral tongue paralysis
 - C) Bilateral loss of tongue movement
 - D) No noticeable symptoms

Answer: B

10. The **vestibular nuclei** are located in:
- A) The anterior medulla
 - B) The posterior pons and medulla
 - C) The midbrain
 - D) The spinal cord

Answer: B

11. The **dorsal motor nucleus of the vagus** is responsible for:

- A) Somatic motor control
- B) Parasympathetic control of thoracic and abdominal organs
- C) Sensory input from the trigeminal nerve
- D) Coordination of limb movements

Answer: B

12. The **pyramidal tracts** in the medulla contain fibers of:

- A) Spinothalamic tract
- B) Corticospinal tract
- C) Vestibulospinal tract
- D) Tectospinal tract

Answer: B

13. The **basis pontis** primarily contains:

- A) Spinothalamic and medial lemniscus tracts
- B) Corticospinal and corticobulbar fibers
- C) Vestibular and olivary nuclei
- D) Reticular formation

Answer: B

14. The **tegmentum of the pons** contains:

- A) The corticospinal tract
- B) The four lemnisci
- C) The pyramidal tracts
- D) The middle cerebellar peduncles

Answer: B

15. The **medial longitudinal fasciculus (MLF)** is responsible for:

- A) Pain and temperature sensation
- B) Coordinating eye movements
- C) Balance and posture
- D) Voluntary motor control of the limbs

Answer: B

16. Which structures are primarily affected by occlusion of the paramedian branches of the basilar artery in the pons?

- A) Corticospinal tract and abducent nerve fibers
- B) Spinothalamic tract and spinal trigeminal nucleus
- C) Middle cerebellar peduncle and facial nucleus
- D) Superior colliculus and substantia nigra

Answer: A

17. A lesion of the **medial lemniscus** in the pons would cause:
- A) Contralateral loss of proprioception and vibration
 - B) Ipsilateral facial paralysis
 - C) Loss of pain and temperature sensation
 - D) Paralysis of tongue muscles

Answer: A

18. The **cranial nerves** originating from the pons include:
- A) CN III, IV
 - B) CN V, VI, VII, VIII
 - C) CN IX, X, XI, XII
 - D) CN I, II

Answer: B

19. The **lateral medullary syndrome (Wallenberg syndrome)** is caused by occlusion of:

- A) Anterior spinal artery
- B) Basilar artery
- C) Posterior inferior cerebellar artery (PICA)
- D) Middle cerebral artery

Answer: C

20. Damage to the **abducent nucleus** results in:

- A) Paralysis of the lateral rectus muscle and inability to abduct the eye
- B) Loss of pain and temperature sensation from the contralateral body
- C) Paralysis of the tongue with deviation toward the lesion
- D) Hoarseness and difficulty swallowing

Answer: A