

What are the Cranial Nerves?

Worksheet

The cranial nerves are 12 paired nerves (I-XII) arising from the brain and brainstem that control sensory input (like smell and vision) and motor output (like eye movement and facial expression) in the head and neck.

Questions

1. How many pairs of cranial nerves are there?

- A) 10
- B) 12
- C) 14
- D) 31

2. Which cranial nerve controls vision?

- A) CN I (Olfactory)
- B) CN II (Optic)
- C) CN VIII (Vestibulocochlear)
- D) CN XII (Hypoglossal)

3. Unlike spinal nerves, cranial nerves emerge from

- A) The spinal cord only
- B) The brain and brainstem
- C) The peripheral muscles
- D) The spinal ganglia

4. Which cranial nerve is a mixed (sensory and motor) nerve controlling facial muscles?

- A) CN III
- B) CN VI
- C) CN VII
- D) CN XI

5. A patient can't smell anything after a head injury but has normal vision and eye movement. Which cranial nerve is damaged?

6. A patient can't move their eye outward (lateral gaze) on one side. Which cranial nerve is affected?

7. A patient has facial drooping on one side and can't close their eye, but tongue and hearing are normal. Which nerve?

8. Define: How many pairs of cranial nerves are there?

9. Define: Where do cranial nerves originate, unlike spinal nerves?

10. Define: Which cranial nerve controls smell?

Answer Key

1. B) 12 - There are 12 pairs of cranial nerves, numbered I to XII.
2. B) CN II (Optic) - CN II, the optic nerve, carries visual information from the retina to the brain.
3. B) The brain and brainstem - Cranial nerves arise directly from the brain/brainstem, not the spinal cord.
4. C) CN VII - CN VII, the facial nerve, carries motor fibers to facial muscles and some sensory (taste) fibers.
5. The sense of smell is carried by cranial nerve I (olfactory nerve), which runs through the thin cribriform plate of the skull. Head trauma can shear these delicate fibers, causing anosmia (loss of smell) while sparing other nerves.
6. The lateral rectus muscle, which moves the eye outward, is controlled by cranial nerve VI (abducens). Damage to CN VI causes the eye to drift inward and prevents outward gaze.
7. Facial muscles are controlled by cranial nerve VII (facial nerve), a mixed nerve carrying motor fibers to facial muscles and some taste sensation. Damage (e.g., Bell's palsy) causes one-sided facial weakness without affecting the tongue (CN XII) or hearing (CN VIII).
8. 12 pairs, numbered I through XII.
9. Directly from the brain and brainstem, not the spinal cord.
10. CN I, the olfactory nerve.

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