

# What is the Cerebellum?

## Worksheet

The cerebellum is a brain structure below the cerebrum that coordinates voluntary movement, balance, and posture, and helps the brain learn new motor skills through constant feedback.

## Questions

1. What is the primary function of the cerebellum?

- A) Initiating movement
- B) Coordinating movement and balance
- C) Processing vision
- D) Regulating heart rate

2. Damage to the cerebellum typically causes

- A) Paralysis
- B) Ataxia (uncoordinated movement)
- C) Blindness
- D) Memory loss

3. Which structure initiates voluntary movement, unlike the cerebellum?

- A) Motor cortex
- B) Occipital lobe
- C) Medulla
- D) Hypothalamus

4. Which cerebellar region processes vestibular (balance) input?

- A) Cerebrocerebellum
- B) Spinocerebellum
- C) Vestibulocerebellum
- D) Neocerebellum only

5. A patient walks with a wide, unsteady gait and overshoots when reaching for objects after cerebellar damage. Why?

6. Why can a person with cerebellar damage still move their limbs, just clumsily?

7. A patient struggles to keep balance with eyes closed after damage to the vestibulocerebellum. Why?

8. Define: What does 'cerebellum' mean?

9. Define: What is the cerebellum's main function?

10. Define: What is ataxia?

## Answer Key

1. B) Coordinating movement and balance - The cerebellum coordinates and fine-tunes movement rather than initiating it.
2. B) Ataxia (uncoordinated movement) - Cerebellar damage disrupts coordination, producing ataxia, not paralysis.
3. A) Motor cortex - The motor cortex in the frontal lobe initiates movement; the cerebellum only refines it.
4. C) Vestibulocerebellum - The vestibulocerebellum connects to the inner ear's vestibular system for balance.
5. The cerebellum normally compares intended movement to actual movement and corrects errors in real time. Without it, movements become uncoordinated (ataxia) and overshoot their target (dysmetria).
6. The cerebellum doesn't initiate movement - the motor cortex does. The cerebellum only fine-tunes and coordinates movement, so damage causes clumsiness (ataxia), not paralysis.
7. The vestibulocerebellum processes input from the inner ear's vestibular system to maintain balance and eye movement control. Damage disrupts equilibrium, especially without visual cues to compensate.
8. 'Little brain' in Latin - it sits below the cerebrum and contains most of the brain's neurons.
9. Coordinating voluntary movement, balance, posture, and motor learning.
10. Uncoordinated, clumsy movement caused by cerebellar damage.

### **Bounlu**

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