

# Basal Ganglia Functions in Motor Control and Cognition

Neuroscience · Answer Key · 15 Questions

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**1. Which brain structure is described as a gate-keeping mechanism for the initiation of motor movement?**

- A) Cerebellum
- B) Basal ganglia**
- C) Cerebral cortex
- D) Thalamus

**2. The basal ganglia are associated with regulating which of the following functions?**

- A) Auditory processing and olfaction
- B) Motor control, cognition, and emotion**
- C) Visual perception and spatial awareness
- D) Sleep cycles and circadian rhythms

**3. Via which structure do the basal ganglia influence motor neurons and interneurons?**

- A) Cerebral cortex
- B) Thalamus
- C) Pons**
- D) Cerebellum

**4. Which of the following is NOT listed as a function associated with the basal ganglia via the pons?**

- A) Voluntary motor movements
- B) Procedural learning
- C) Habit formation
- D) Sensory transduction**

**5. The basal ganglia are considered to be involved in effectively choosing which actions to allow and which to inhibit. This relates to their role in:**

- A) Regulating breathing
- B) Initiating motor movement**
- C) Processing sensory input
- D) Maintaining balance

**6. Which of these is a component of the basal ganglia?**

- A) Hippocampus
- B) Amygdala
- C) Putamen**
- D) Cerebellum

**7. The text mentions the basal ganglia are associated with functions including motor control, cognition, and:**

- A) Digestion
- B) Respiration
- C) Emotion**
- D) Temperature regulation

**8. The influence of the basal ganglia on motor neurons and interneurons is facilitated via the:**

- A) Thalamus
- B) Cerebral cortex
- C) Pons**
- D) Medulla oblongata

**9. Which specific structure is listed as a related structure to the basal ganglia?**

- A) Caudate nucleus**
- B) Hippocampus
- C) Cerebellum
- D) Thalamus

**10. Conditional learning is mentioned as a function associated with the basal ganglia via the:**

- A) Thalamus
- B) Pons**
- C) Cerebral cortex
- D) Cerebellum

**11. The basal ganglia play a role in habit formation, which occurs via the:**

- A) Thalamus
- B) Pons**
- C) Cerebral cortex
- D) Cerebellum

**12. Which of the following is explicitly mentioned as a function influenced by the basal ganglia via the thalamus?**

- A) Procedural learning
- B) Eye movements**
- C) Habit formation
- D) Conditional learning

**13. The text indicates that the basal ganglia are associated with regulating functions that are influenced via the:**

- A) Pons
- B) Cerebellum
- C) Thalamus**
- D) Medulla oblongata

**14. Which of the following is a listed component of the basal ganglia?**

- A) Putamen**
- B) Cerebellum
- C) Thalamus
- D) Cerebral cortex

**15. The basal ganglia's influence on cognition is mediated via the:**

- A) Pons
- B) Thalamus**
- C) Cerebellum
- D) Medulla oblongata