

# Hindbrain and Midbrain

by Sophia



## WHAT'S COVERED

In this lesson, you will learn to understand the makeup and function of the cerebellum and brainstem. Specifically, this lesson will cover:

## 1. The Hindbrain

Recall that the human brain has a forebrain, a hindbrain, and a midbrain. The hindbrain is involved in coordinating movement and unconscious behaviors. It includes the cerebellum and the brainstem (pons and medulla oblongata).

### 1a. The Cerebellum

The main role of the **cerebellum** is to coordinate voluntary movements. The cerebellum also has a role in coordinating motor activities, spatial awareness, timing, and planning. It is responsible for providing the timing needed for smooth, coordinated movements.

#### IN CONTEXT

The cerebellum plays a key role in field sobriety tests because alcohol has a direct effect on the cerebellum. Somebody who gets pulled over by a police officer and has to take a field sobriety test—the police officer is actually measuring their cerebellar functions. The cerebellum is the part of the brain that controls your voluntary or your motor movements, so a person who is under the influence has inhibited coordination.



#### TERM TO KNOW

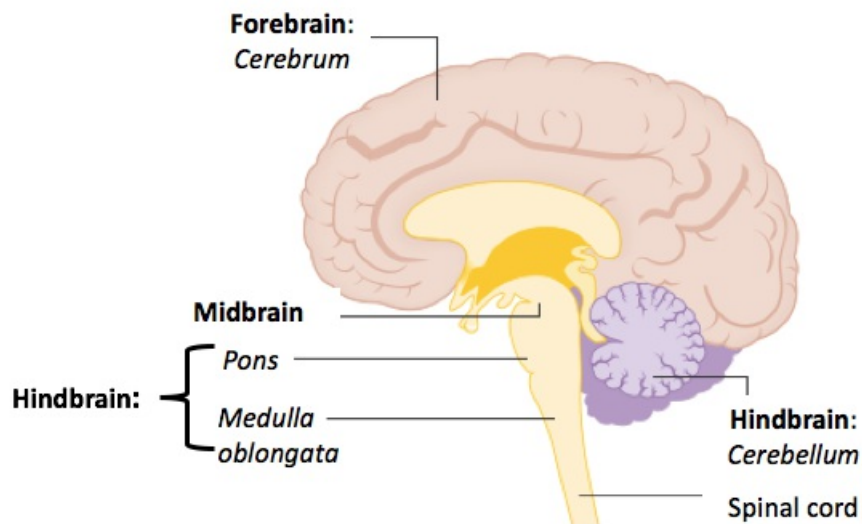
##### Cerebellum

A region of the hindbrain primarily responsible for coordinating voluntary movements.

### 1b. The Brainstem

The brainstem connects to the spinal cord, so it's probably no surprise that the **pons** is involved in relaying messages from the forebrain to the cerebellum, as well as regulating breathing, bladder control, equilibrium, among many other functions. The **medulla oblongata** is also part of the brainstem and is involved in breathing, sneezing, vomiting, and other unconscious behaviors.

Take a look at a diagram of the brain below to help identify the different parts of the hindbrain.



#### TERMS TO KNOW

##### Pons

A structure found in the hindbrain that relays messages from the forebrain to the cerebellum, as well as dealing with breathing, equilibrium, bladder control, and many other functions.

##### Medulla Oblongata

A structure found in the hindbrain that helps regulate unconscious behaviors such as breathing, digestion, and sneezing.

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## 2. Midbrain

The **midbrain** is a very small area of the brain that relays any sensory information to the forebrain. The midbrain acts as a liaison between other parts of the brain and the forebrain.



#### TERM TO KNOW

##### Midbrain

A structure that relays sensory information to the forebrain.



#### SUMMARY

This lesson has been an overview of the functions of **the hindbrain**, which includes **the cerebellum** (coordinating voluntary movements) and **the brainstem** (including the pons and medulla oblongata), which regulate many unconscious behaviors. You also learned about the function of **the midbrain**, which acts as a go-between for the forebrain and other parts of the brain.

Keep up the learning and have a great day!



## ATTRIBUTIONS

- [Hindbrain and Midbrain](#) | Author: Wikipedia | License: Creative Commons



## TERMS TO KNOW

### **Cerebellum**

A region of the hindbrain primarily responsible for coordinating voluntary movements.

### **Medulla Oblongata**

A structure found in the hindbrain that helps regulate unconscious behaviors such as breathing, digestion, and sneezing.

### **Midbrain**

A structure that relays sensory information to the forebrain.

### **Pons**

A structure found in the hindbrain that relays messages from the forebrain to the cerebellum, as well as dealing with breathing, equilibrium, bladder control, and many other functions.