

## Hind Brain

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Also called Reptilian Brain

Surrounds the fourth ventricle  
Has two major divisions with 3 structures

Metencephalon

Pons and Cerebellum

Myelencephalon

Medulla Oblongata (Medulla)

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## Medulla

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- Also contains part of the reticular formation.
- Regulates breathing, heart rate, digestion, blood pressure, temperature, skeletal muscle tone, and other things.
- Is the structure that keeps you alive. You can damage other parts of the brain and live, if you damage the medulla, you usually will die.

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## Pons

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- Is superior (above) to the medulla.
- Is ventral to the cerebellum.
- Also contains a portion of the RAS.
- Is responsible for wakefulness or the sleep cycle.

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## Cerebellum Also Called the "Little Brain"

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- Appears similar to the cortex
- Is located behind the Medulla and Pons
- Is connected to the Pons by three bundles of axons called the Cerebellar Peduncles.
  - Superior
  - Middle
  - Inferior

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## Cerebellum Continued

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- Has two hemispheres
- Is covered by a cerebellar cortex.
- Has a set of deep cerebellar nuclei
  - Receives information from the cerebellar cortex
  - Sends information to the cerebellum and to other brain structures.
- Receives information from the:
  - Visual
  - Auditory
  - Vestibular
  - Somatosensory
  - Motor system.
- Works with many other systems involved with movement.

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## Function

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- Helps control muscle tone, body balance.
- Also smoothes out muscle movement so it is not jerky.
- In general, it helps coordinate voluntary muscle movement.
- Is extremely important for controlling rapid movement such as startle responses.
- Also helps maintain body balance.
- Has a memory system which helps with motor control.
- Think of throwing a baseball or hitting a tennis ball.

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## Damage

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- Results in jerky, exaggerated, motor movements.
- Movements are also poorly coordinated.