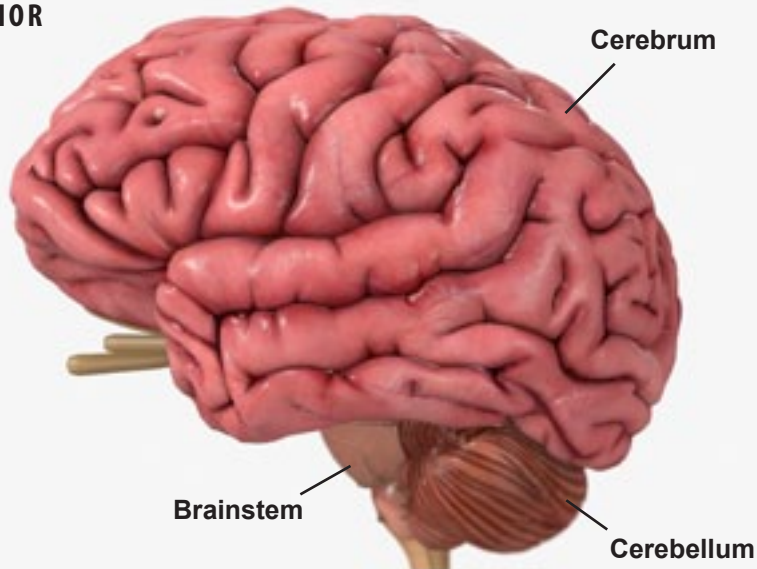


Anatomy of the Brain

EXTERIOR



Overview

The brain is the control center of the human body. It forms your thoughts and preserves your memories. It regulates your body's actions, from the movements you choose to perform to the functions you don't even consciously think about. Let's take a closer look at the anatomy and the function of the brain.

Exterior

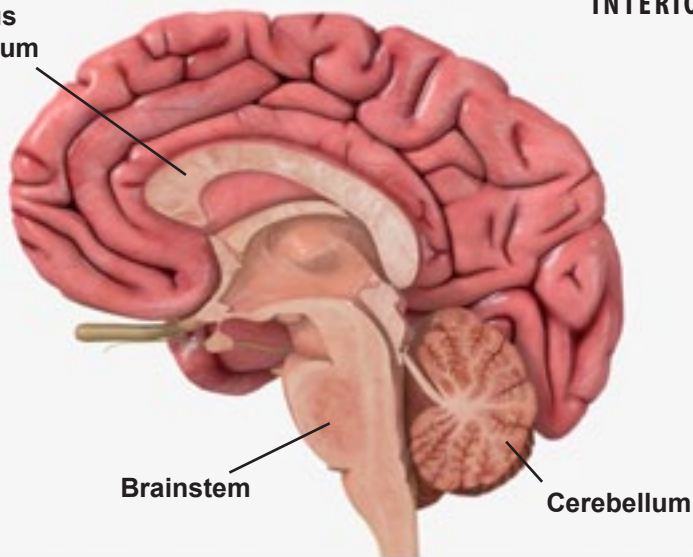
The brain is encased in the skull. It is cushioned and protected by layers of tissue called "meninges." The exterior of the brain is covered with a network of blood vessels that supply oxygen and nutrients. Exiting from the base of the brain are twelve pairs of highly specialized cranial nerves.

Basic Structure

The brain has three main parts. The largest is the cerebrum. It controls the brain's higher functions, such as reasoning, emotions, speech and fine motor movements. Below the cerebrum is the cerebellum. It controls basic muscle movements and balance. And the last part of the brain, called the "brainstem," controls breathing, sleep and the functions of your glands and organs. The brain stem connects to the spinal cord.

Corpus callosum

INTERIOR

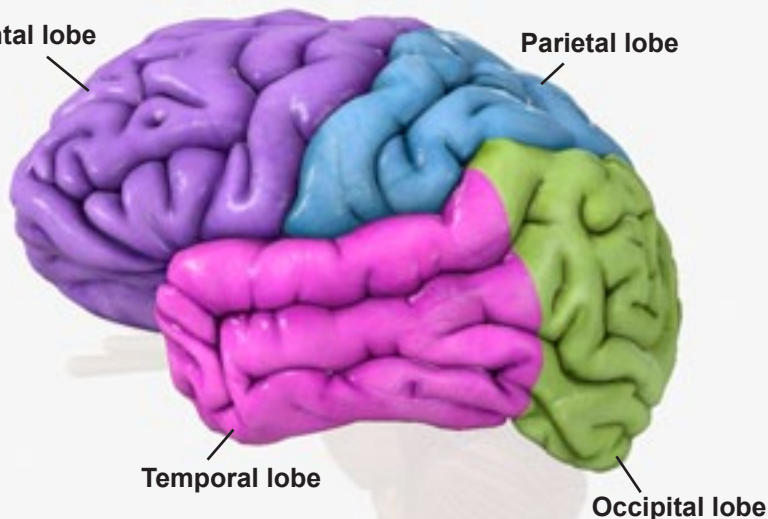


Hemispheres of the Cerebrum

Now, let's examine the structure of the "thinking" part of the brain – the cerebrum. The cerebrum is divided into right and left halves. These are called "hemispheres." Each hemisphere controls the opposite side of the body. The hemispheres are also specialized for different tasks. The right hemisphere is the creative side. The left hemisphere is the logical side. The hemispheres are connected by a bundle of fibers called the corpus callosum. It allows the hemispheres to communicate with each other.

Frontal lobe

Parietal lobe



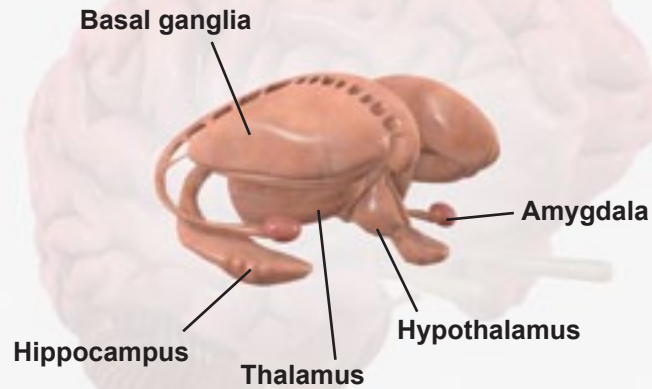
Cerebral Cortex and Lobes

The thick, wrinkled outer layer of the cerebrum is known as the cerebral cortex. It is divided into specialized sections called "lobes." Each hemisphere has four lobes. These are the frontal lobes, the parietal lobes, the occipital lobes and the temporal lobes. The lobes work together to help you experience, interpret and respond to the world around you.

LOBES

Anatomy of the Brain

LIMBIC SYSTEM



Limbic System

Below the cerebrum is the limbic system. This is the part of the brain that deals with emotions related to survival, such as fear and desire. The hypothalamus controls functions you don't consciously think about, such as hunger and thirst. The thalamus helps process and relay sensory information.

Other Structures

Deeper within the brain are some other notable structures. The pineal gland helps regulate your body's internal clock. The pituitary gland controls all of the other glands in your body.

Ventricles

The ventricles are open spaces in the brain. They are filled with cerebrospinal fluid. This fluid helps cushion the brain. It distributes hormones in the brain and removes waste.

Conclusion

Your brain is the most complex organ in your body. Many aspects of the brain are still a mystery, but scientists are gradually learning more about how it works.

A sagittal cross-section of the human brain focusing on the pituitary and pineal glands. The pituitary gland is labeled with a black line pointing to it, and the pineal gland is labeled with a black line pointing to it.

Pineal gland

VENTRICLES

