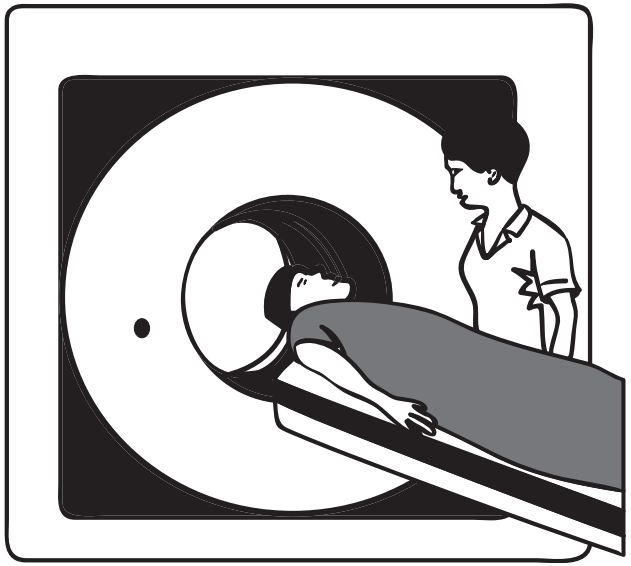
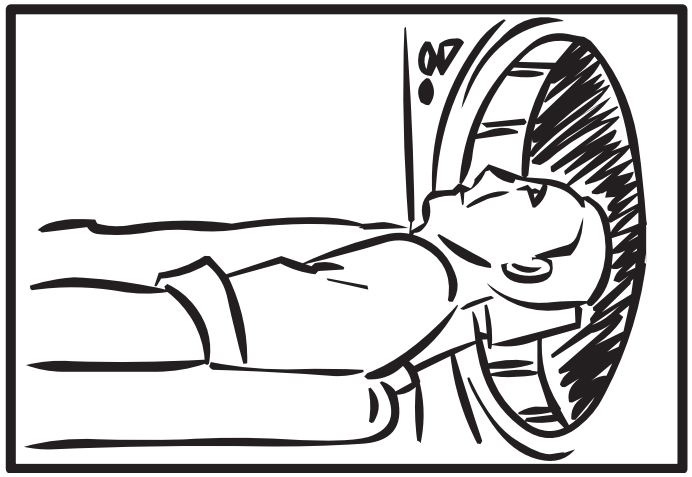
## MRI



MRI is short for "magnetic resonance imaging." Doctors and scientists use MRI to take a picture of a living person's brain. The MRI machine uses magnets and radio waves to create pictures that show the structure of the brain. Scientists can use MRI to understand how different parts of the brain are affected by different drugs.

## PET Scan

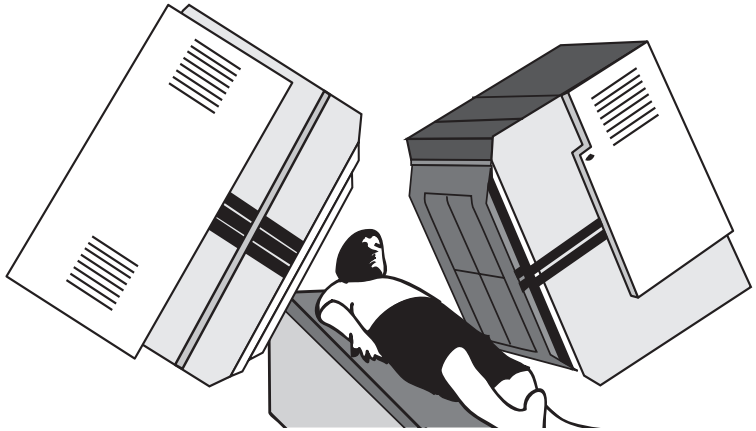


PET means "positron emission tomography." Doctors and scientists can use PET to take pictures of a living person's brain. PET scans use radioactive material to show the parts of the brain that are working. This is helpful in showing which parts are affected by different drugs. The scans show the parts of the brain that are working hardest.

SPECT

NIDA

## SPECT Scan

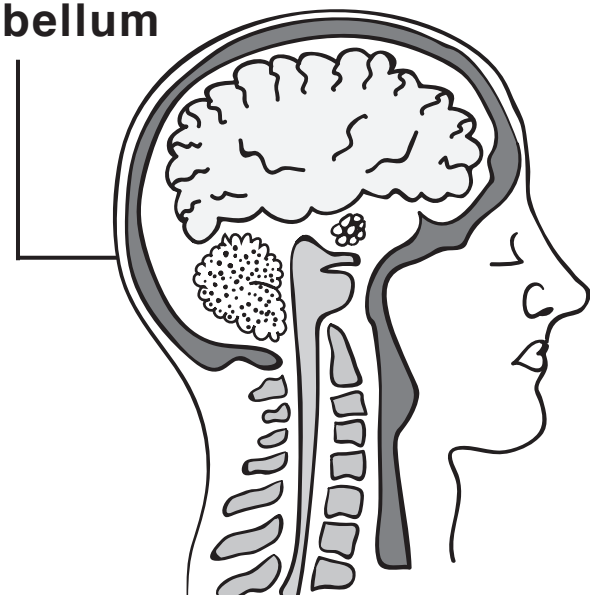


"Single photon emission computed tomography" is known as SPECT. It is similar to a PET scan because both use radioactive material to show the parts of the brain that are active and using energy. Both are common in drug abuse research. SPECT scans use different radioactive material than PET scans and are less expensive.

Cerebellum

NIDA

## Cerebellum

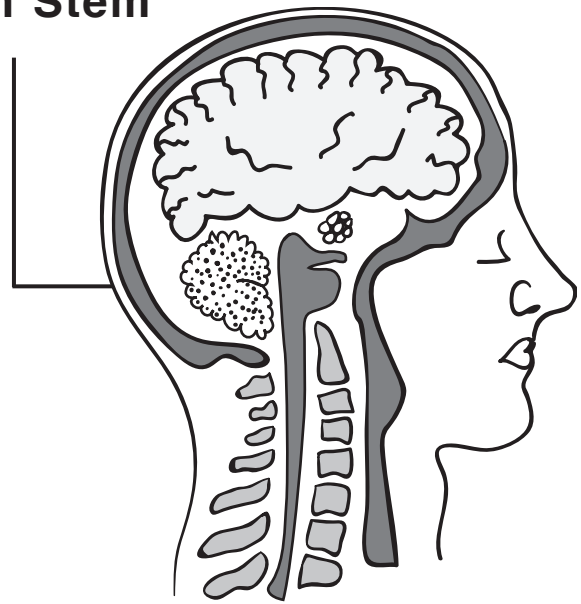



The cerebellum is the part of the brain located in the back of the head. It controls posture, movement, and the sense of balance. When you are playing basketball, picking up your backpack, or playing guitar, you are using your cerebellum.

Brain Stem

NIDA

## Brain Stem

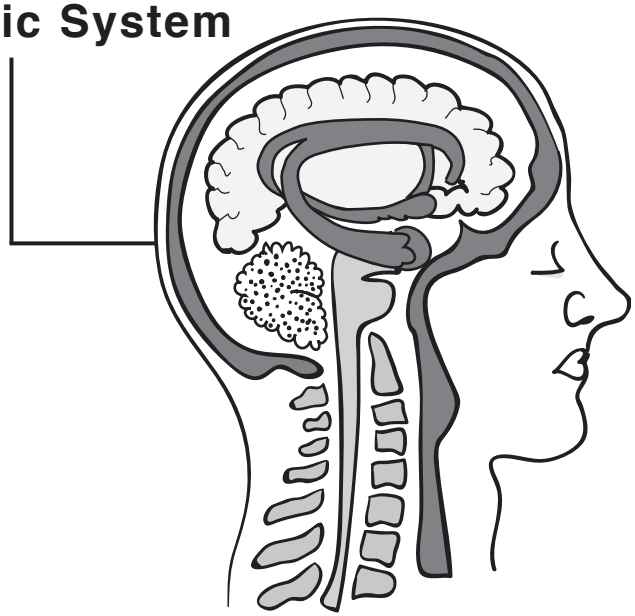


The brain stem is in the bottom of the brain, at the top of the spinal cord. It has two main parts: the pons and the medulla. The brain stem controls many activities in the body that happen automatically, such as sleeping, awakening, and dreaming. When is the last time you told your brain to dream?

Limbic System

NIDA

## Limbic System



The limbic system is found deep inside the brain. The limbic system is made up of several parts, including the hippocampus and the amygdala. It is responsible for learning, memory, and emotions. This part of the brain is greatly affected by drugs such as alcohol and nicotine.

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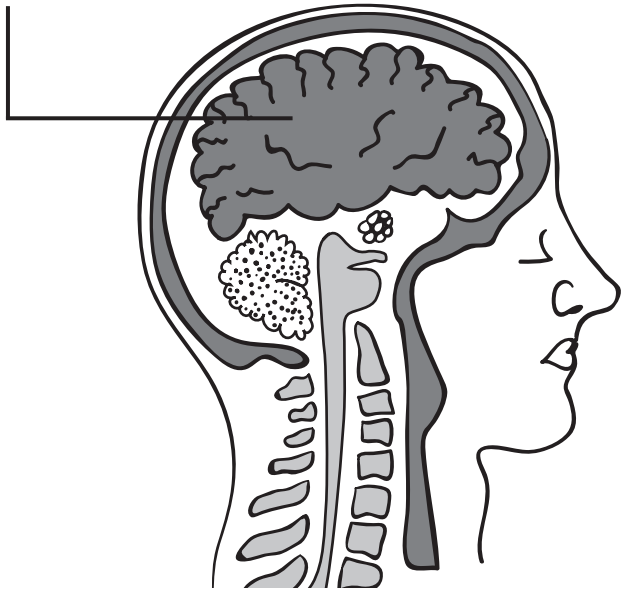
## Cerebral Cortex



In humans, the cerebral cortex is the largest part of the brain. It is divided into two parts: the right and left hemispheres. The right hemisphere is responsible for artistic expression and understanding relationships in space. The left hemisphere is responsible for analytical thinking, problem solving, decision making, and language.