

Introduction to the Lobes of the Brain and Their Function

Epileptic seizures start in the brain. The area or lobe of the brain in which they occur can determine how they will affect a person's body. Here are some of the ways that seizures in different lobes can affect your mind and body. This table shouldn't be used to diagnose epilepsy. It simply provides information to help you understand your seizures.

Lobes of the Brain	Role Played by Different Parts of the Brain	Potential Implications of Seizure Involving this Part of the Brain
Frontal Lobe	<p>The frontal region of this lobe is called the prefrontal cortex. It is involved in planning, organizing, problem solving, attention, personality and a variety of "executive functions" including behaviour and emotions.</p> <p>Motor function, including the coordination of mouth and tongue movements for speech, as well as movements of all body parts are managed by the frontal lobe.</p>	<ul style="list-style-type: none"> • Inability to move certain parts of the body • Inability to speak • Working memory deficits • Personality and mood changes • Executive function deficits (such as trouble focusing, difficulty planning, difficulty with problem solving) • Difficulty switching strategies when a situation changes
Parietal Lobe	<p>The parietal lobes contain the primary somatosensory cortex which controls sensation (touch, pressure). Behind the primary somasensory cortex is a large association area that is involved in the judgment of texture, weight, size, shape of objects.</p>	<ul style="list-style-type: none"> • Difficulty drawing objects • Difficulty distinguishing left from right • Difficulty with mathematics • Lack of awareness for certain body parts and or space • Difficulty with hand-eye coordination
Occipital Lobe	<p>Region in the back of the brain which processes visual information.</p>	<ul style="list-style-type: none"> • Visual deficits • Visual illusions • Deficits in colour perception • Deficits in movement detection

Temporal Lobe

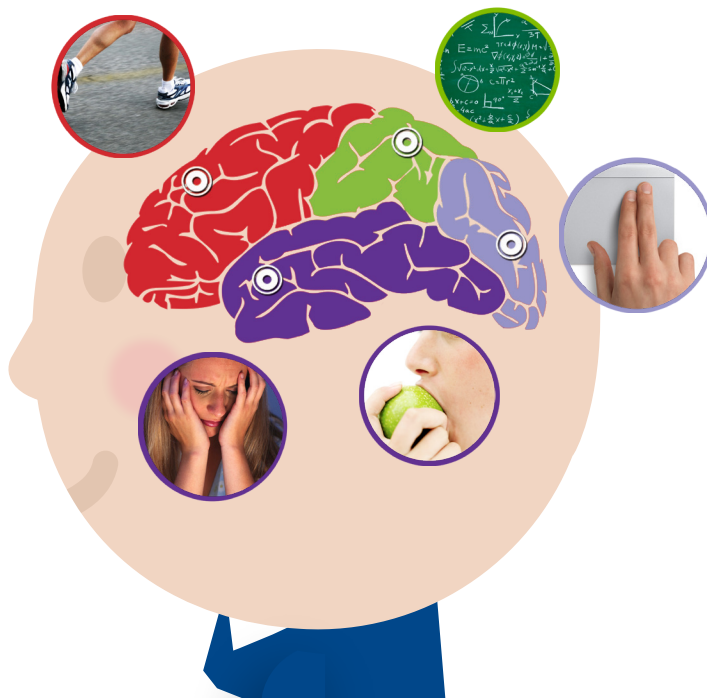
Like all lobes of the brain, there are two temporal lobes (one on each side of the brain) located at about the level of the ears. These lobes allow a person to tell one smell from another and one sound from another. They also help in sorting new information and are believed to be responsible for short-term memory (i.e., memory for pictures and faces). Left Lobe – Mainly involved in verbal memory (i.e., memory for words and names).

- Difficulty recognizing people or places
- Difficulty understanding speech and language
- Difficulty producing coherent speech
- Difficulty identifying and naming objects
- Interference with long-term memory
- Increased or decreased interest in sexual behaviour
- Inability to categorize objects

Insula

The insula plays a role in processing certain types of sensory information – such as taste. Pain and temperature, sensory information from the digestive system, as well as certain components of auditory information are also processed by the insula.

- Language deficits
- Inability to recognize sounds
- Deficits in taste perception



This information should not be used for diagnosis.

Reprinted from Brain Matters: An Introduction to Neuroscience (Epilepsy Support Centre).