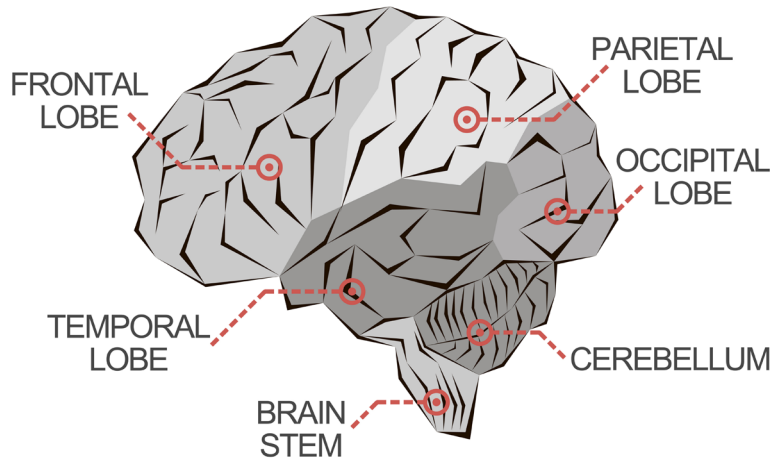


## FUNCTIONS ASSOCIATED WITH LOBES OF THE BRAIN



### Frontal Lobe

Center for the emotions and thought processes that translate into personality. Controls high-level cognitive skills like:

- ◆ Sequencing
- ◆ Memory formation
- ◆ Judgment
- ◆ Attention
- ◆ Motivation
- ◆ Emotional, social, and sexual control
- ◆ Verbal expression
- ◆ Spontaneity
- ◆ Problem solving
- ◆ Decision making
- ◆ Expressive language
- ◆ Motor integration

### Cerebellum

Controls functions like:

- ◆ Coordination of voluntary movement
- ◆ Gross and fine motor coordination
- ◆ Postural control
- ◆ Balance and equilibrium
- ◆ Eye movement

### Occipital Lobe

Visual processing area of the brain that controls functions like:

- ◆ Visual perception
- ◆ Distance and depth perception
- ◆ Visual processing
- ◆ Reading

### Parietal Lobe

Helps integrate sensory input and process language. Controls functions like:

- ◆ Tactile perception (touch)
- ◆ Pain
- ◆ Sensory perception: taste, hearing, sight, touch, smell
- ◆ Awareness of body parts
- ◆ Object naming
- ◆ Academic skills
- ◆ Right/left organization
- ◆ Visual attention
- ◆ Eye-hand coordination

### Temporal Lobe

Controls functions like:

- ◆ Short-term memory
- ◆ Auditory stimuli and processing of auditory information
- ◆ Language comprehension
- ◆ Musical awareness
- ◆ Emotion
- ◆ Behavior
- ◆ Face and object recognition
- ◆ Memory acquisition
- ◆ Perception

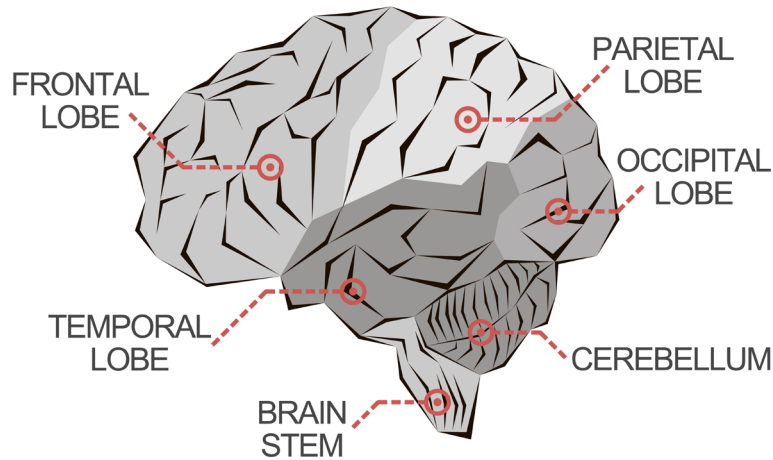
### Brain Stem

Responsible for regulating most of the body's automatic functions that are essential for life, including:

- ◆ Arousal and sleep regulation
- ◆ Swallowing food and fluid
- ◆ Autonomic nervous system (heart rate, breathing, temperature, and eating)
- ◆ Level of alertness

Over →

## CHANGES AFTER DAMAGE TO LOBES OF THE BRAIN



### Frontal Lobe Damage

- ◆ Impulsivity
- ◆ Perseveration
- ◆ Difficulty concentrating or planning
- ◆ Impaired judgment
- ◆ Difficulty with problem-solving
- ◆ Loss of verbal expression
- ◆ Reduced sense of taste or smell
- ◆ Depression
- ◆ Uncontrollable emotion
- ◆ Social and sexual behavior changes
- ◆ Poor initiation of voluntary movements

### Cerebellum Damage

- ◆ Impaired gross and fine motor coordination
- ◆ Dysmetria (inability to judge distance)
- ◆ Loss of ability to walk
- ◆ Slurred speech
- ◆ Poor postural control
- ◆ Inability to make rapid movements
- ◆ Impaired control of eye movements
- ◆ Tremors
- ◆ Dizziness

### Occipital Lobe Damage

- ◆ Visual deficits (visual field cuts)
- ◆ Difficulty visually locating objects
- ◆ Difficulty identifying colors
- ◆ Hallucinations and visual distortions
- ◆ Word blindness
- ◆ Inability to recognize object movement
- ◆ Difficulty reading and writing
- ◆ Poor processing of visual information

### Parietal Lobe Damage

- ◆ Difficulty distinguishing left from right
- ◆ Difficulty with academics (math/reading)
- ◆ Vision problems
- ◆ Sensory problems
- ◆ Lack of awareness of certain body parts and/or surrounding space (neglect)

### Temporal Lobe Damage

- ◆ Disturbance of selective attention
- ◆ Impaired factual and long-term memory
- ◆ Short-term memory loss
- ◆ Persistent talking
- ◆ Emotional disturbance
- ◆ Increased aggressive behavior
- ◆ Difficulty understanding spoken words (receptive aphasia)
- ◆ Difficulty identifying and categorizing objects

### Brain Stem Damage

- ◆ Difficulty with movement and balance
- ◆ Impaired arousal and sleep regulation
- ◆ Dizziness and vertigo
- ◆ Impaired regulation of temperature, heart rate, respiration
- ◆ Locked-in Syndrome