

Chapter 2 part 2



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Lesion damaged area of the tissue (in psychology, the brain)

brain imaging tests can reveal brain lesions

Electroencephalogram recording of brain-wave patterns produced by electrical activity of the surface of the brain

in an EEG, electrodes are attached to the patient's head to record the brain-wave patterns; EEGs can show symptoms of certain conditions, like seizures

ON CHAPTER 2 PART 2 SPECIFICALLY FOR YOU FOR ONLY \$13.90/PAGE Order Now PET scan brain-imaging method in which a radioactive sugar is injected into the subject and a computer compiles a color-coded image of the activity of the brain, with lighter colors indicating more activity

PET scans are often used to see how effective an ongoing treatment is

MRI brain-imaging method using radio waves and magnetic fields of the body to produce detailed images of the brain

MRI provides good contrast between the different soft tissues of the body, almost making it effective in imaging the brain, muscles, the heart, and cancers

fMRI MRI technique in which computer tracks changes in the oxygen levels in the blood

compared to a normal MRI, the fMRI is much less invasive and much easier to perform

Brain stem part of the brain adjoining with the spinal cord

the brainstem is divided into three main sections: the midbrain, the pons, and the medulla

Medulla the first large swelling at the top of the spinal cord, forming the lowest part of the brain, which is responsible for life-sustaining functions such as breathing, swallowing, and heart rate

as part of the brainstem, the medulla helps in the transferring of messages between various parts of the brain and the spinal cord

Reticular formation an area of neurons running through the middle of the medulla and the pons and slightly beyond that play a role in general arousal, alertness, and sleep

the reticular formation also plays a role in sleep

Thalamus relays sensory information from the lower part of the brain to the proper areas of the cortex and processes some sensory information before sending it to its proper area

the thalamus is part of the limbic system located in the center of the brain

Cerebellum part of the lower brain located behind the pons that controls and coordinates involuntary, rapid, fine motor movement

the cerebellum relays information between body muscles and areas of the cerebral cortex

Limbic system a group of several brain structures located under the cortex and involved in learning, emotion, memory, and motivation

the limbic system is particularly involved in emotions and behaviors related to survival

Amygdala responsible for fear responses and memory of fear

the amygdala is located near the hippocampus

Hypothalamus small structure in the brain located below the thalamus and directly above the pituitary gland

it is responsible for motivational behavior such as sleep, hunger, thirst, and sex

Cerebral cortex controls thought processes

the cerebral cortex is responsible for thinking, perceiving, and producing and understanding language--it is the most highly developed part of the human brain

Glial cells cells that provide support for the neurons to grow on and around, deliver nutrients to neurons, and produce myelin to coat axons.

Glial cells also influence information processing

Frontal lobes areas of the cortex located in the front and top of the brain, responsible for higher mental processes and decision making

frontal lobes are also responsible for the production of fluent speech

Parietal lobes sections of the brain located at the top and back of each cerebral hemisphere containing the centers for touch and taste

the parietal lobes are also responsible for temperature sensations

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Occipital lobes areas of the brain containing the visual centers of the brain

the occipital lobe is located at the rear and bottom of each cerebral hemisphere

Temporal lobes areas of the cortex containing the neurons responsible for the sense of hearing and meaningful speech

the temporal lobes are located just behind the temples

Motor cortex responsible for sending motor commands to the muscles of the somatic nervous system

The motor cortex is located at the back of the frontal lobe

Sensory cortex areas within each lobe of the cortex responsible for the coordination and interpretation of information

it is also responsible for higher mental processing

Association areas areas within each lobe of the cortex responsible for the coordination and interpretation of information, as well as higher mental processing

association areas are neither motor or sensory

Aphasia disorder resulting from damage to the parts of the brain that control language, causing problems with any or all of the following: speaking, listening, reading, and writing

there are several types of aphasia that vary in severity

Broca's area Broca's area is one of the main areas of the cerebral cortex responsible for producing language

Broca's area controls motor functions involved in speech production--people with damaged Broca's areas can understand language but cannot properly form words or produce speech

Wernicke's area one of the two parts of the cerebral cortex linked--it's involved in the understanding of written and spoken language

language development can be seriously impaired by damage to this area of the brain

Neuroplasticity the ability within the brain to constantly change both the structure and function of many cells in response to experience or trauma because of neuroplasticity, one could live without a part of their brain

Corpus callosum thick band of neurons that connects the right and left cerebral hemispheres

the corpus callosum is involved in several functions including eye movement and maintaining the balance of arousal and attention

Split brain conditioning where the corpus callosum is severed

when patients with a split brain are shown an image in their left visual field, they cannot vocally name what they have seen