

<p>Acetylcholine</p>	<p>a neurotransmitter that enables muscle action, learning and memory. With Alzheimer's disease, Ach-producing neurons deteriorate. Blocking of it causes paralysis.</p>
<p>Action potential</p>	<p>a neural impulse; a brief electrical charge that travels down the axon (depolarizes the neuron as it travels through).</p>
<p>Afferent (sensory) neurons</p>	<p>neurons that carry incoming information from the sensory receptors to the brain and spinal cord.</p>
<p>Agonist</p>	<p>foreign substance that mimics certain neurotransmitters, having similar effects.</p>
<p>All-or-none principle</p>	<p>neurons will only fire at full power, either all the way or not at all.</p>

<p>Amygdala</p>	<p>two lima bean-sized neural clusters in the limbic system; linked to emotion (specifically levels of aggression and fear).</p>
<p>Antagonist</p>	<p>foreign substance that blocks certain neurotransmitters, not allowing them to do their job.</p>
<p>Aphasia</p>	<p>impairment of language, usually caused by left hemisphere damage either to Broca's area (impairing speaking) or to Wernicke's area (impairing understanding).</p>
<p>Association areas</p>	<p>areas of the cerebral cortex that are not involved in primary motor or sensory functions; rather, they are involved in higher mental functions such as learning, remembering, thinking, and speaking.</p>
<p>Autonomic Nervous System</p>	<p>the part of the peripheral nervous system that controls the glands and the muscles of the internal organs (such as the heart). Its sympathetic division arouses; its parasympathetic division calms.</p>

<p>Axon</p>	<p>the extension of a neuron, ending in branching terminal fibers, through which messages pass to other neurons or to muscles or glands.</p>
<p>Blood-brain barrier</p>	<p>prevents materials (foreign substances, neurotransmitters and hormones in the body) in the blood from entering the brain or spinal cord</p>
<p>Brainstem</p>	<p>the oldest part and central core of the brain, beginning where the spinal cord swells as it enters the skull; the brainstem is responsible for automatic survival functions.</p>
<p>Broca's Area</p>	<p>controls language expression - an area, usually in the left frontal lobe, that directs the muscle movements involved in speech.</p>
<p>Central Nervous System</p>	<p>the brain and the spinal cord.</p>

<p>Cerebellum</p>	<p>the "little brain" at the rear of the brainstem; functions include processing sensory input and coordinating movement output and balance.</p>
<p>Cerebral cortex</p>	<p>the intricate fabric of interconnected neural cells covering the cerebral hemispheres; the body's ultimate control and information-processing center.</p>
<p>Corpus callosum</p>	<p>the large band of neural fibers connecting the two brain hemispheres and carrying messages between them.</p>
<p>CT Scan</p>	<p>a series of X-ray photographs taken from different angles and combined by computer into a composite representation of a slice through the body.</p>
<p>Dendrite</p>	<p>the bushy, branching extensions of a neuron that receive messages and conduct impulses toward toward the cell body.</p>

Depolarization

occurs when action potential travels down the axon, causing the sodium ions to rush in (a mixing of different ions) causing depolarization and the energy to fire.

Dopamine

a neurotransmitter that influences movement, learning, attention, and emotion. Some stimulant substances mimic its effects. Too much is linked to schizophrenia, too little is linked to Parkinson's disease.

Efferent (motor) neurons

neurons that carry outgoing information from the brain and spinal cord to the muscles and glands.

Electroencephalograph
(EEG)

an amplified recording of the waves of electrical activity that sweep across the brain's surface. These waves are measured by electrodes placed on the scalp.

Endocrine System

the body's "slow" chemical communication system; a set of glands that secrete hormones in the bloodstream.

<p>Endorphins</p>	<p>"morphine within," natural, opiatelike neurotransmitter linked to pain control and to pleasure. Gives a "runner's high" feeling, released when injured or in pain.</p>
<p>FMRI (functional MRI)</p>	<p>a technique for revealing bloodflow and, therefore, brain activity by comparing successive MRI scans. FMRI scans show brain function.</p>
<p>Frontal lobes</p>	<p>portion of the cerebral cortex lying just behind the forehead; involved in speaking and muscle movements and in making plans and judgments. Also involved in personality.</p>
<p>GABA</p>	<p>a major inhibitory neurotransmitter. Undersupply is linked to seizures, tremors, and insomnia.</p>
<p>Glial cells</p>	<p>cells in the nervous system that support, nourish, and protect neurons.</p>

<p>Glutamate</p>	<p>a major excitatory neurotransmitter, involved in memory.</p>
<p>Hippocampus</p>	<p>a neural center that is located in the limbic system; helps process explicit memories for storage.</p>
<p>Hormones</p>	<p>chemical messengers that are manufactured by the endocrine glands, travel through the bloodstream, and affect other tissues.</p>
<p>Hypothalamus</p>	<p>a neural structure lying below (hypo) the thalamus; it directs several maintenance activities (eating, drinking, body temperature, sex drive), helps govern the endocrine system via the pituitary gland, and is linked to emotion and reward.</p>
<p>Interneurons</p>	<p>neurons within the brain and spinal cord that communicate internally and intervene between the sensory inputs and motor outputs.</p>

Lesion	tissue destruction. A brain lesion is a naturally or experimentally caused destruction of brain tissue.
Limbic system	doughnut-shaped neural system (including the hippocampus, amygdala, and hypothalamus) located below the cerebral hemispheres; associated with emotions and drives.
Long-term potentiation (LTP)	an increase in a synapse's firing potential after brief, rapid stimulation. Believed to be a neural basis for learning and memory.
Medulla	the base of the brainstem; controls heartbeat and breathing.
Motor cortex	an area at the rear of the frontal lobes that controls voluntary movements.

MRI

a technique that uses magnetic fields and radio waves to produce computer-generated images of soft tissue. MRI scans show brain anatomy.

Myelin sheath

a layer of fatty tissue segmentally encasing the fibers of many neurons; enables vastly greater transmission speed of neural impulses as the impulse hops from one node to the next.

Nervous System

the body's speedy, electrochemical communication network, consisting of all the nerve cells of the peripheral and central nervous systems.

Neuron

a nerve cell; the basic building block of the nervous system.

Neurotransmitters

chemical messengers that cross the synaptic gaps between neurons. When released by the sending neuron, neurotransmitters travel across the synapse and bind to receptor sites on the receiving neuron, thereby influencing whether that neuron will generate a neural impulse.

<p>Norepinephrine</p>	<p>a neurotransmitter that helps control alertness and arousal. An undersupply can cause a depressed mood.</p>
<p>Occipital lobes</p>	<p>portion of the cerebral cortex lying at the back of the head; includes areas that receive information from the visual fields.</p>
<p>Parasympathetic Nervous System</p>	<p>the division of the autonomic nervous system that calms the body, conserving its energy.</p>
<p>Parietal lobes</p>	<p>portion of the cerebral cortex lying at the top of the head and toward the rear; receives sensory input for touch and body position.</p>
<p>Peripheral Nervous System</p>	<p>the sensory and motor neurons that connect the central nervous system to the rest of the body.</p>

PET

a visual display of brain activity that detects where a radioactive form of glucose goes while the brain performs a given task.

Pituitary gland

the endocrine system's most influential gland. Under the influence of the hypothalamus, the pituitary regulates growth and controls other endocrine glands.

Plasticity

the brain's ability to change, especially during childhood, by reorganizing after damage or by building new pathways based on experience.

Polarization

at resting potential a neuron is polarized. All sodium ions are on the outside of the neuron and all potassium ions are on the inside.

Pons

part of the brainstem that influences sleep, dreaming, and respiration.

Primary Auditory cortex

area in the temporal lobes responsible for receiving auditory information.

Primary Visual cortex

area at the back of the occipital lobes that process visual information.

Reflex

a simple, automatic response to a sensory stimulus, such as the knee-jerk response.

Refractory period

a neuron's resting period after firing, when it recharges and can not fire again until recharged.

Resting potential

when a neuron is completely polarized and not active.

Reticular formation

a nerve network in the brainstem that plays an important role in controlling arousal.

Reuptake

a neurotransmitter's reabsorption by the sending neuron.

Serotonin

a neurotransmitter that affects mood, hunger, sleep, and arousal. An undersupply is linked to depression.

Soma

cell body where the nucleus of the neuron is located.

Somatic Nervous System

the division of the peripheral nervous system that controls the body's skeletal muscles.

<p>Somatosensory cortex</p>	<p>area at the front of the parietal lobes that registers and processes body touch and movement sensations.</p>
<p>Sympathetic Nervous System</p>	<p>the division of the autonomic nervous system that arouses the body, mobilizing its energy in stressful situations; prepares the body for fight or flight response.</p>
<p>Synapse</p>	<p>the junction between the axon tip of the sending neuron and the dendrite or cell body of the receiving neuron. The tiny gap at this junction is called the synaptic gap or synaptic cleft.</p>
<p>Synaptic vesicle</p>	<p>the vesicle that holds neurotransmitters at the synapse, then releases them into the synaptic gap.</p>
<p>Temporal lobes</p>	<p>portion of the cerebral cortex lying roughly above the ears; includes the auditory ares, each receiving information primarily from the opposite ear.</p>

Thalamus

the brain's sensory switchboard, located on top of the brainstem; it directs messages to the sensory receiving areas in the cortex and transmits replies to the cerebellum and medulla.

Threshold

the level of stimulation required to trigger a neural impulse.

Wernicke's area

controls language reception - a brain area involved in language comprehension and expression; usually in the left temporal lobe.
