

Nervous System Glossary

Term	Definition
Action Potential	A brief electrical impulse that travels along the membrane of a neuron, allowing communication within the nervous system.
Astrocyte	A star-shaped glial cell in the CNS that maintains the blood-brain barrier and regulates the neuronal environment.
Autonomic Nervous System (ANS)	The part of the peripheral nervous system that regulates involuntary body functions such as heart rate, digestion, and respiration.
Axon	The long projection of a neuron that transmits electrical impulses away from the cell body to other neurons or effectors.
Central Nervous System (CNS)	Comprises the brain and spinal cord; responsible for integrating and processing information.
Dendrite	A branched extension of a neuron that receives signals from other neurons and transmits them to the cell body.
Ependymal Cell	A type of glial cell lining the ventricles of the brain and spinal cord; helps circulate cerebrospinal fluid.
Enteric Nervous System	A subdivision of the ANS that governs the function of the gastrointestinal system; sometimes called the 'second brain.'
Ganglion (plural: ganglia)	A cluster of neuron cell bodies located outside the CNS, typically in the peripheral nervous system.
Glial Cell (Neuroglia)	Non-neuronal cells that support, protect, and nourish neurons. Includes astrocytes, oligodendrocytes, Schwann cells, and others.
Gray Matter	Nervous tissue made primarily of neuronal cell bodies, dendrites, and unmyelinated axons; involved in processing and integration.
Microglia	Immune-like glial cells in the CNS that remove damaged neurons, waste, and pathogens through phagocytosis.
Motor Neuron	A neuron that carries impulses from the CNS to muscles or glands, triggering a response.
Myelin Sheath	A fatty insulating layer formed by glial cells that wraps around axons to speed up electrical signal transmission.
Neuron	The basic functional cell of the nervous system, capable of conducting electrical signals and forming synapses. Composed of a cell body, dendrites, and axon.
Neurotransmitter	A chemical messenger released by neurons at synapses to transmit signals to neighboring cells.
Oligodendrocyte	A type of CNS glial cell that forms myelin sheaths around axons.
Parasympathetic Nervous System	A division of the ANS that conserves energy and promotes rest-and-digest activities.
Peripheral Nervous System (PNS)	The network of nerves and ganglia outside the CNS that connects the brain and spinal cord to the rest of the body.
Reflex	A rapid, automatic response to a stimulus, typically involving a simple neural pathway through the spinal cord.
Satellite Cell	A type of glial cell in the PNS that supports and insulates neuron cell bodies in ganglia.
Schwann Cell	A glial cell in the PNS that produces the myelin sheath for peripheral axons and aids in nerve regeneration.

Sensory Neuron	A neuron that carries sensory information from the body's receptors to the CNS.
Somatic Nervous System	The part of the PNS responsible for voluntary control of skeletal muscles and transmission of sensory input.
Sympathetic Nervous System	A division of the ANS that activates the fight-or-flight response in times of stress.
Synapse	The junction between two neurons or a neuron and an effector where neurotransmitters relay the signal.
White Matter	Nervous tissue composed mostly of myelinated axons; responsible for signal transmission between different brain or spinal cord regions.