

# Module 10 LO1

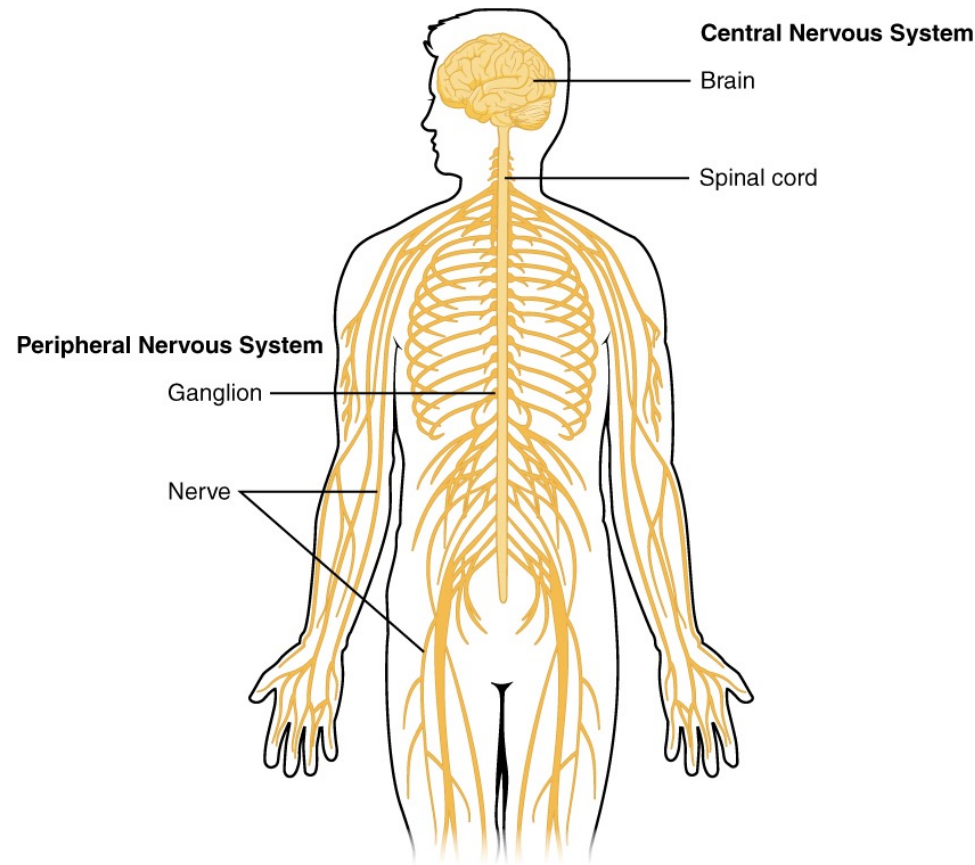
## Nervous System Functions

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# 1. Nervous Tissue Functions

- Nervous tissue - vascular tissue comprised of 2 cell types
  - Neurons (nerve cells)
  - Neuroglia (glia cells)
- Subdivisions:
  - CNS
    - Brain
    - Spinal cord
  - PNS
    - Cranial nerves
    - Spinal nerves



# A. Neurons

- Comprise the circuitry connecting all regions of the body to the nervous system
- Highly specialized cells
- Lost ability to undergo mitotic division
- Neurons or nerve cells possess electrical excitability
- Nerve impulse travels rapidly and at constant strength
  - speeds ranging from 0.5 to 130 meters per second (1 to 280 mi/hr)

## B. Neuroglia

- Smaller cells that greatly outnumber neurons
  - Forms half the volume of CNS
- Maintaining homeostasis
  - Support, nourish, and protect neurons
- Ability to multiply and divide in mature NS
- Do not generate or propagate nerve impulses
- Six types of neuroglia:
  - CNS
    - Astrocytes, oligodendrocytes, microglia, and ependymal cells
  - PNS
    - Schwann cells (neurolemmocytes) and satellite cells

# Functions

- A. Maintaining homeostasis
- B. Receiving sensory input
- C. Integrating information
- D. Controlling muscles and glands
- E. Establishing and maintaining mental activity