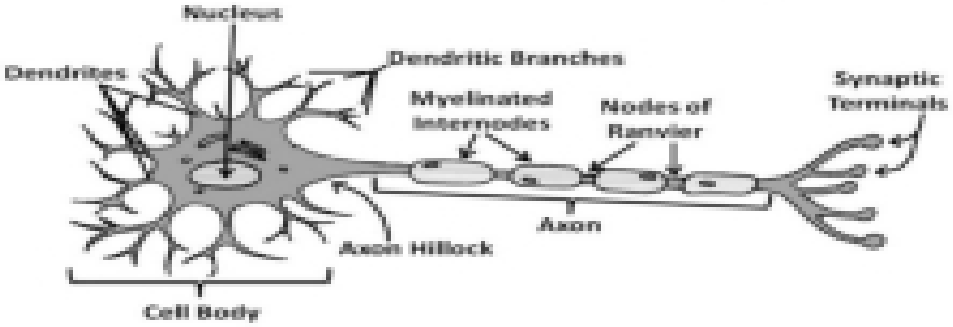
Neuronal Anatomy



A **nerve** is a group of neurons bundled together like a cable. Nerve cells, or **neurons**, carry information throughout the nervous system. All neurons have certain parts in common:

- The **cell body** contains the nucleus and most of the organelles, and may be located at one end of the nerve cell or in the middle. Cell bodies tend to be grouped near each other or clustered together. These groups of clustered nerve cell bodies are called **ganglia**, and are usually only found in the **peripheral nervous system (PNS)** (i.e. outside the brain and spinal cord), rather than the **central nervous system (CNS)**.
- **Dendrites** are short branches of the cells spreading out from the cell body. Dendrites receive signals from other neurons or sensory cells and carry them towards the cell body.
- The **axon** is a single long extension of the cell (much longer than the dendrites), which allows a neuron to transmit information over long distances. Axons usually end with a cluster of **synaptic terminals**. Some axons in the human body are up to a meter long! The axon may be covered in a layer called the myelin sheath.
- The **myelin sheath** is made of two different types of supporting cells. In the PNS, myelin is made up of Schwann cells, while in the CNS, myelin is made of oligodendrocytes. These supporting cells are wrapped many times around the axon, and are called **myelinated internodes**. The cells are arranged with small spaces between them, called the **nodes of Ranvier**.

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