

Nervous tissue is composed of **two types** of cells:

1. **Neurons** - transmit nerve impulses.
2. **Neuroglial cells** (glial cells) - are non-conducting “**support cells**” of nervous tissue.

Structure of a neuron:

- **Cell body** (perikaryon) - contains the nucleus and most of the cytoplasm. Located mostly in the **central nervous system** as clusters called **nuclei**, some found in the **peripheral nervous system** as groups called **ganglia** (two types: **sensory** and **autonomic**).
- **Sensory** ganglia contain cell bodies of either pseudounipolar or bipolar **sensory** neurons. There are **no synapses** in sensory ganglia.
- **Autonomic** ganglia contain **motor** cell bodies, which are synaptic sites where an impulse is transmitted from the **axon of a preganglionic** autonomic neuron to the **dendrites** or **cell body** of a **postganglionic** neuron.

Note: Neurons in ganglia are derived from **neural crest ectoderm**.

- **Dendrites** - neuronal processes that send the impulse **toward** the cell body. There may be one or many dendrites per cell. Some neurons lack dendrites.
- **Axon** (nerve fiber) - neuronal process (single) that sends the impulse **away** from the cell body.

Axons and central and peripheral sensory processes in the CNS and PNS may be **myelinated**. Myelinated axons with thicker myelin sheaths conduct impulses **faster** than thinly myelinated or unmyelinated axons.

- **Oligodendrocytes** are glial cells that form myelin for parts of multiple axons in the **CNS**.
- **Schwann cells** are glial cells that form myelin for axons or processes in the **PNS**. Each Schwann cell forms myelin for only a single segment of a single axon.

CNS axons with **myelin** sheaths formed by oligodendrocytes **do not regenerate** if cut. **Myelinated** axons in the **PNS** have the capacity to **regenerate** down an endoneurial sheath formed by Schwann cells.

Note: Whether or not someone feels different stimuli (pain, temperature, pressure, etc.) is determined by the specific nerve fiber stimulated.