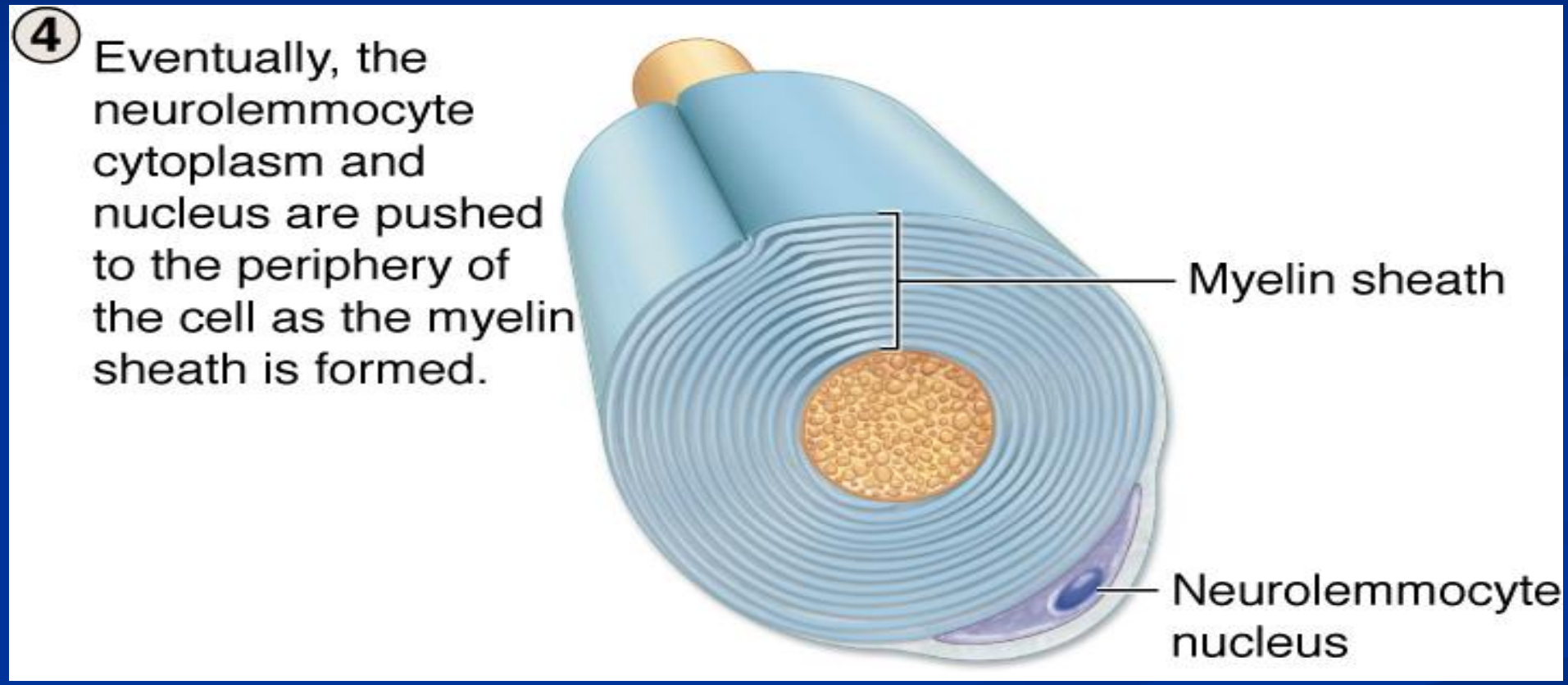
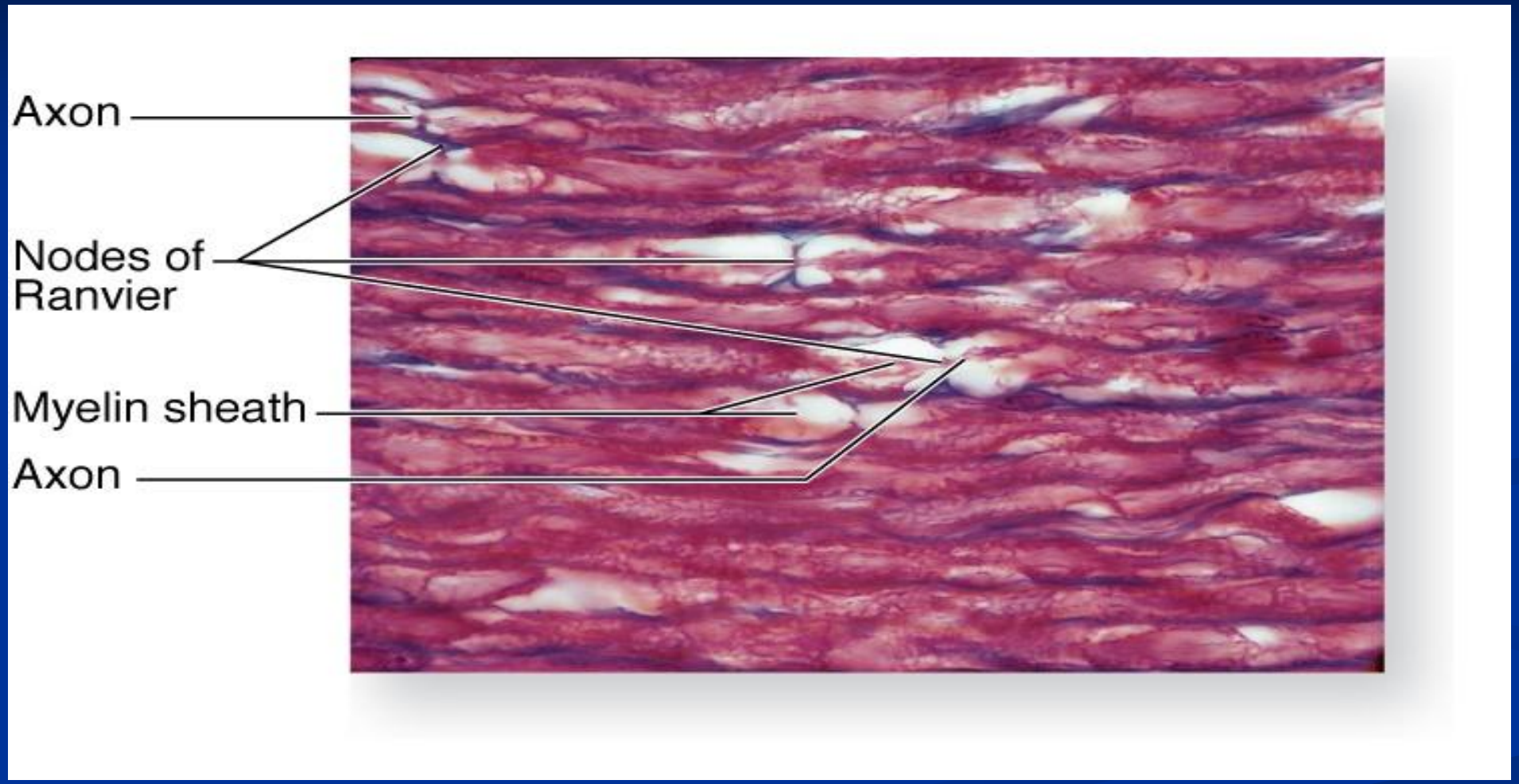
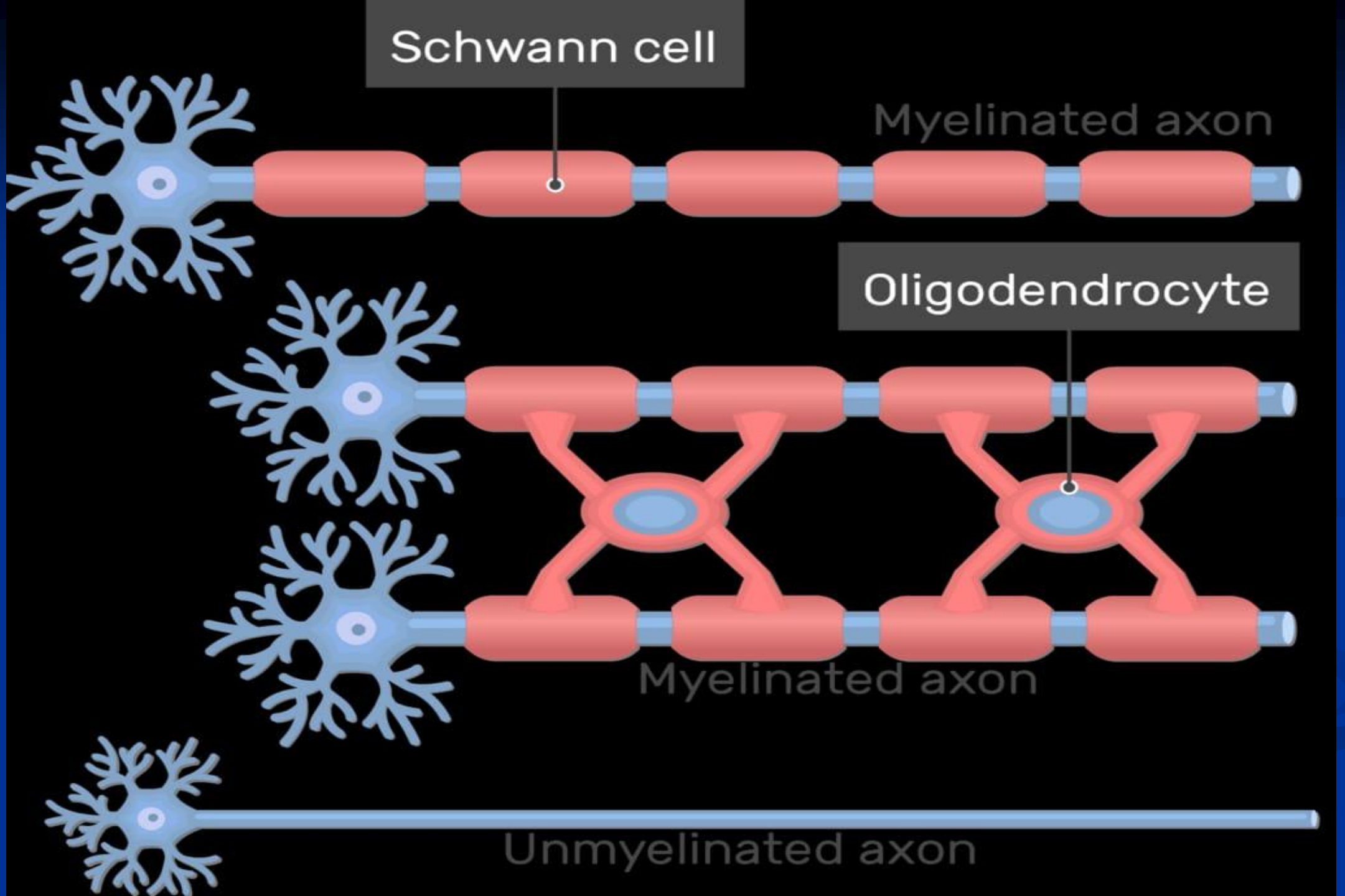
Medical Biology

- **The peripheral nervous system**
- The main components of the peripheral nervous system are the nerves, ganglia and nerve endings.
- **Nerves:-** are bundles of nerve fibers surrounded by a series of connective tissue sheaths.
- **Nerve fibers:-**

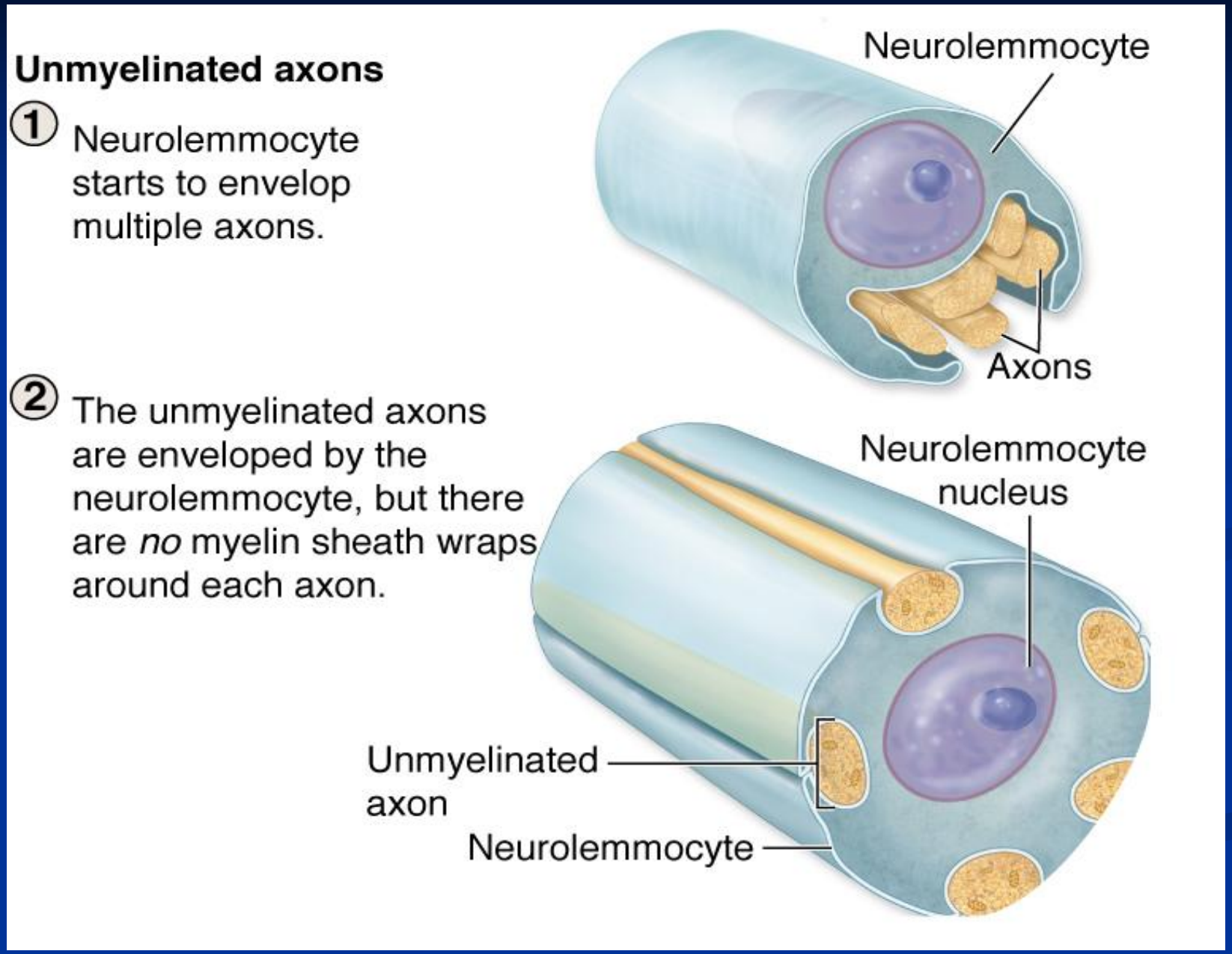
- There are 2 types of nerve fibers:
- **Myelinated nerve fibers:**




Axon
Nodes of Ranvier
Myelin sheath
Axon

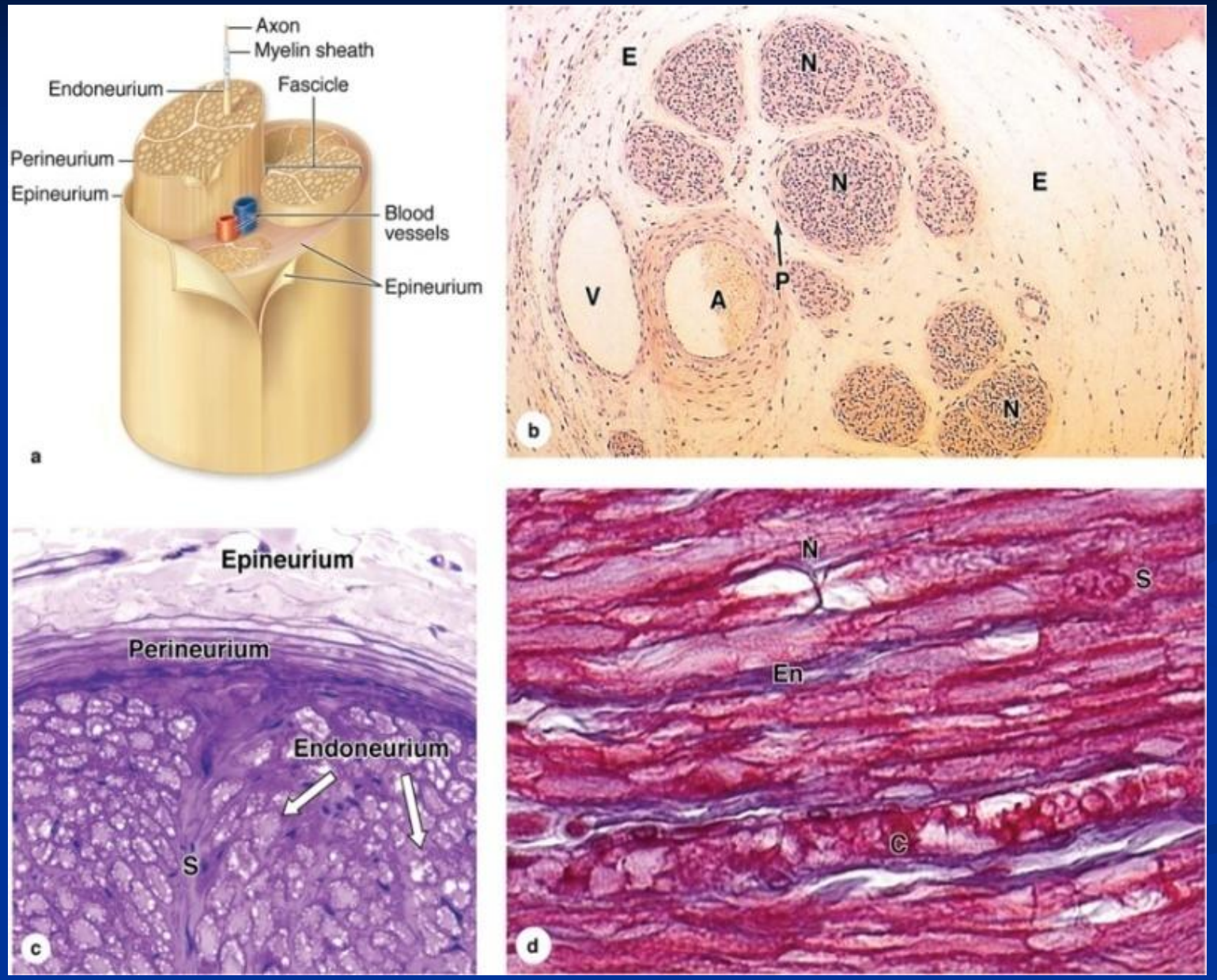

Schwann cell
Myelinated axon
Oligodendrocyte
Myelinated axon
Unmyelinated axon

- **unmyelinated nerve fibers:**



	Myelinated axons		Non-myelinated axons
1.	Transmission of nerve impulse is faster	1.	Transmission of nerve impulse is slower
2.	Myelinated axon has a myelin sheath.	2.	Myelin sheath is absent
3.	Node of Ranvier is present between adjacent myelin sheaths.	3.	Node of Ranvier is absent
4.	Found in the brain, the spinal cord, the cranial and spinal nerves	4.	Found in autonomous and somatic neural systems
5.	Schwann cells are observed inside the myelin sheath	5.	Schwann cells are not observed inside the myelin sheath

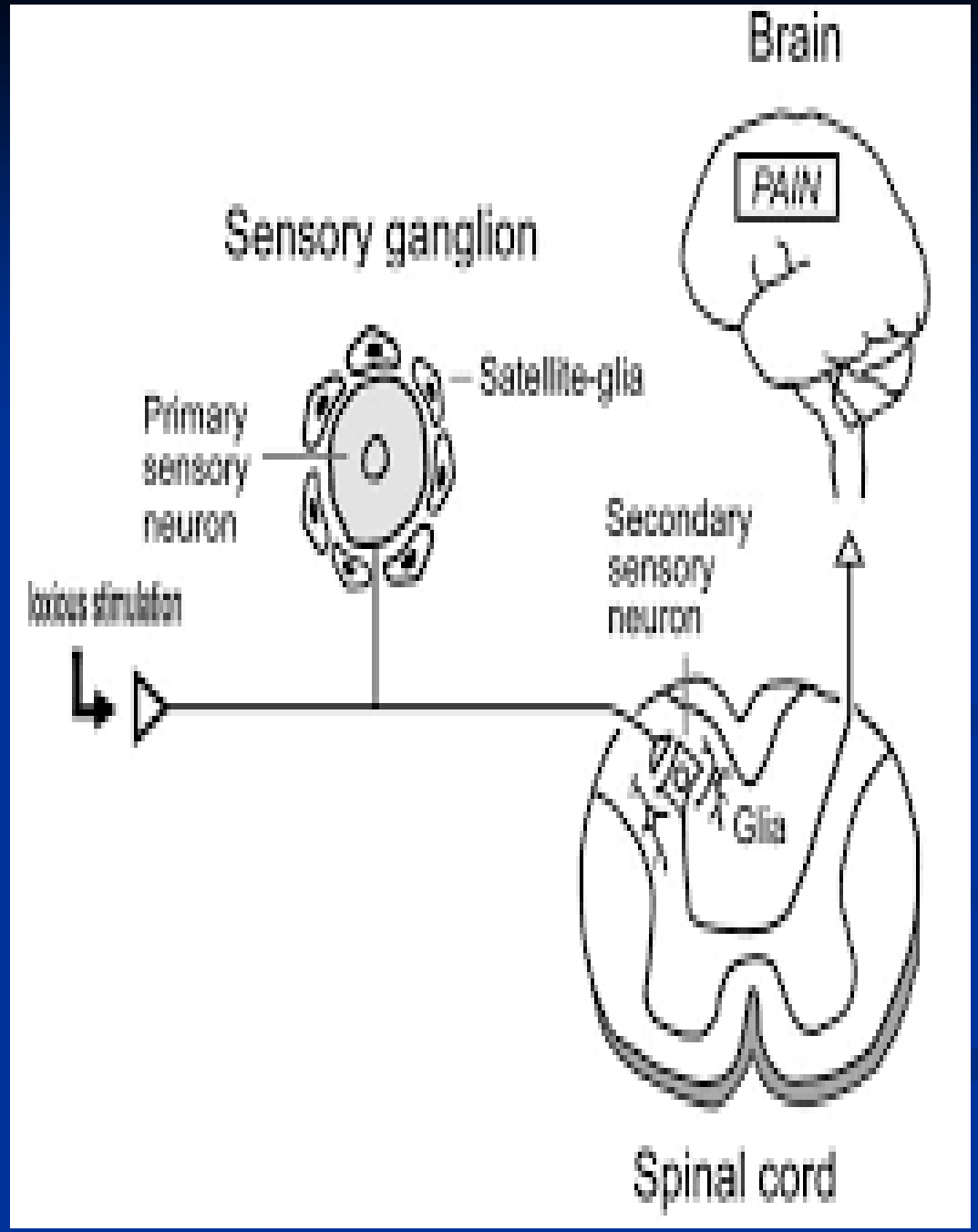
- **Peripheral nerves:**



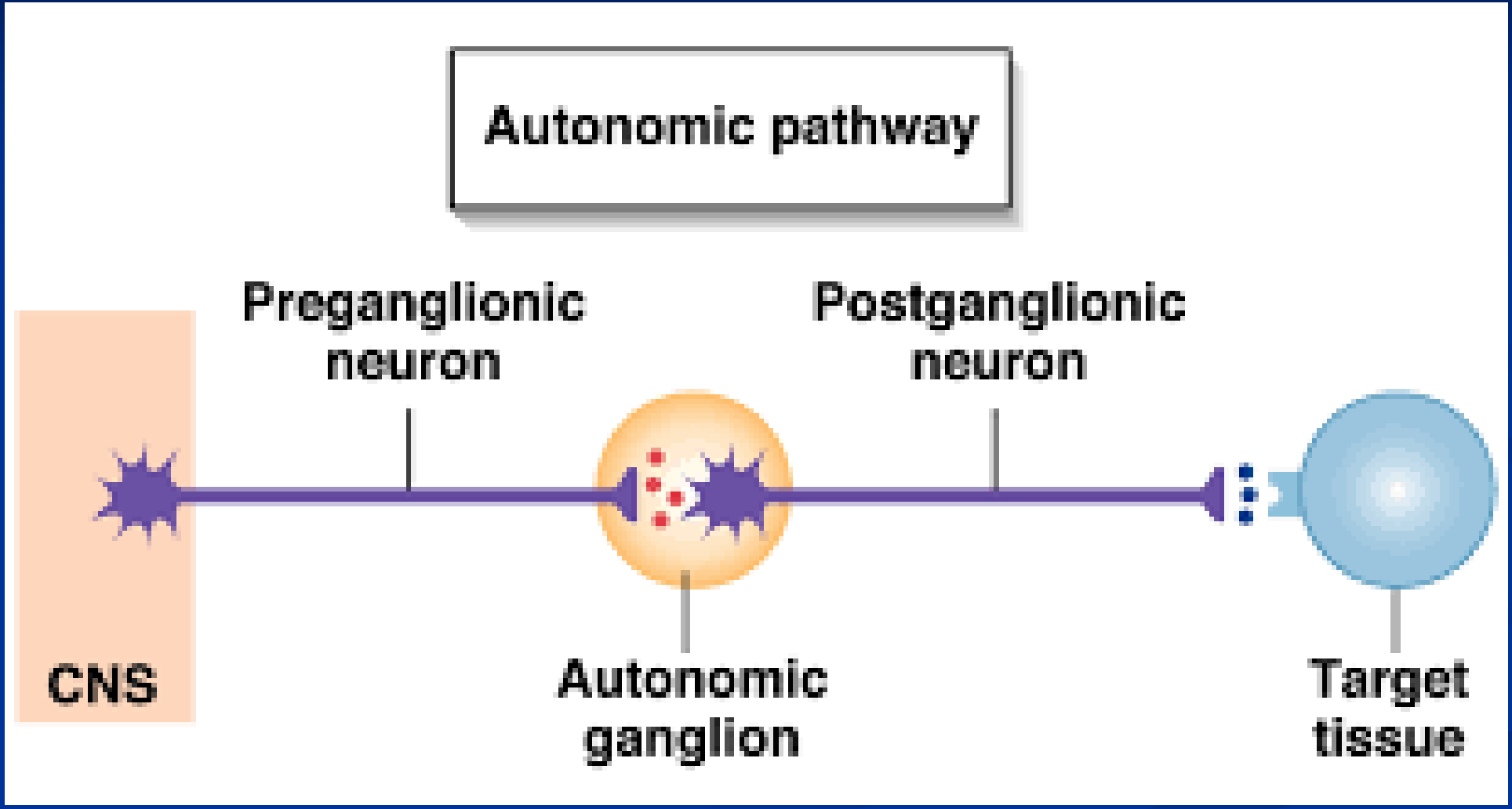
- **Ganglia:**
- Ganglia are aggregations of cell bodies of neurons with glial cells located outside the CNS. They serve as relay stations in the PNS to transmit nerve impulses, one nerve enters and other exits from each ganglion. There are 2 types of ganglia: sensory and autonomic.

- 1. sensory ganglia: receive afferent impulses that go to the CNS.
- a. cranial ganglia:
- b. spinal ganglia:

The neurons of these ganglia are unipolar (pseudounipolar).



- 2. autonomic ganglia:

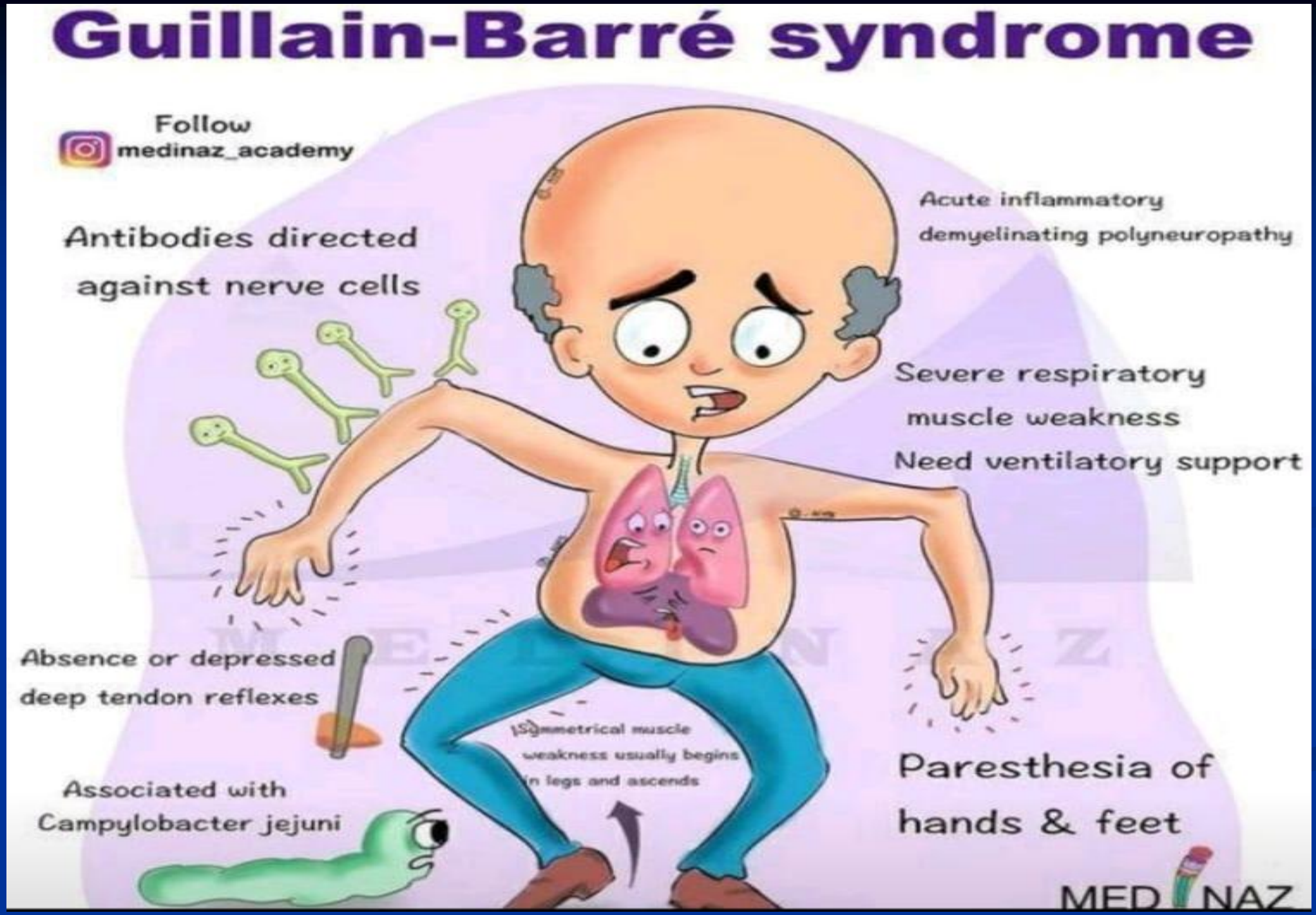


Clinical notes:

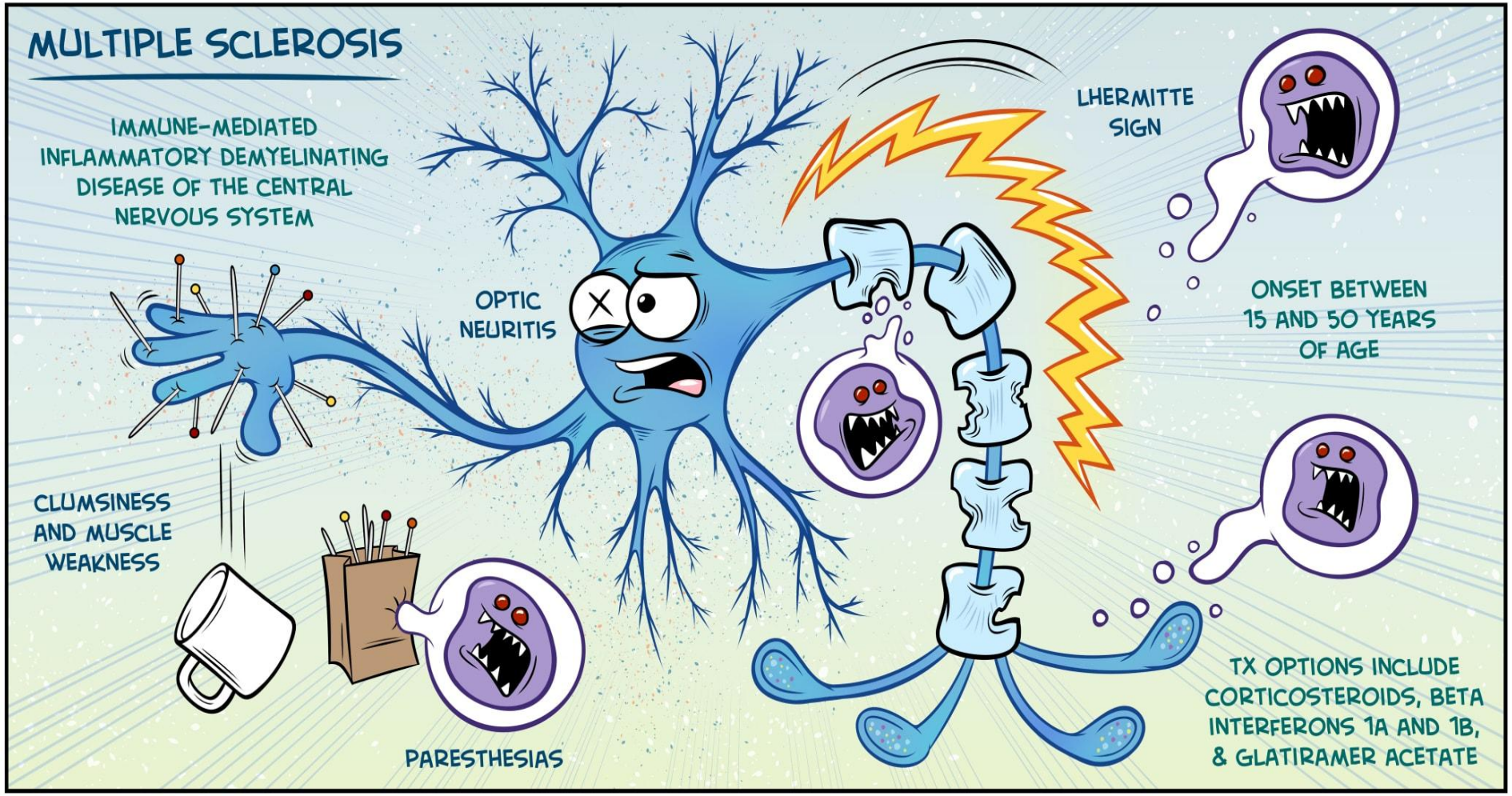
1. Demyelinating Diseases

2. Guillian-Barre syndrome (GBS)

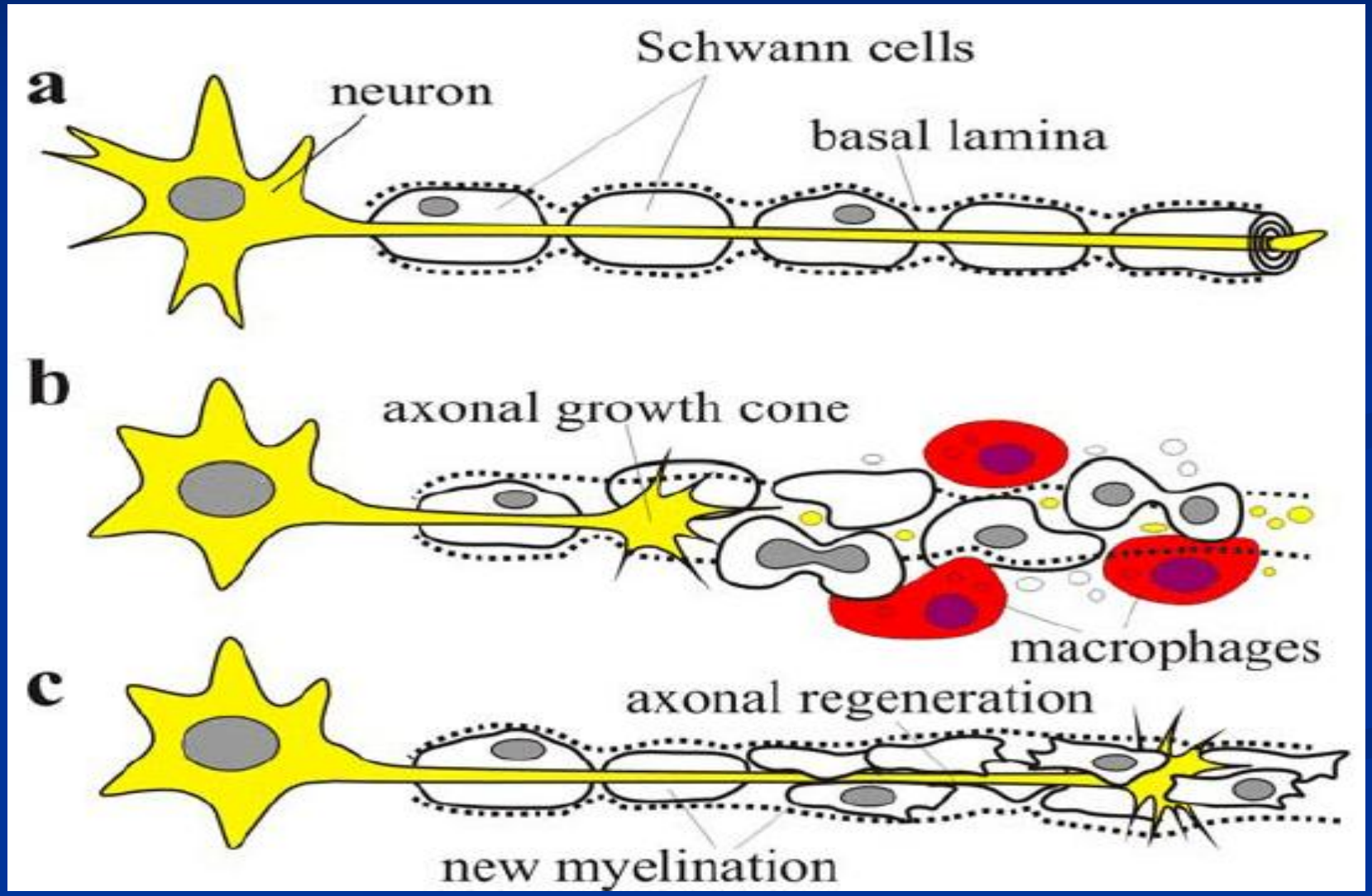
Guillain-Barré syndrome



3. Multiple sclerosis (MS)



4. Injured fibers in peripheral nerves



Thank you