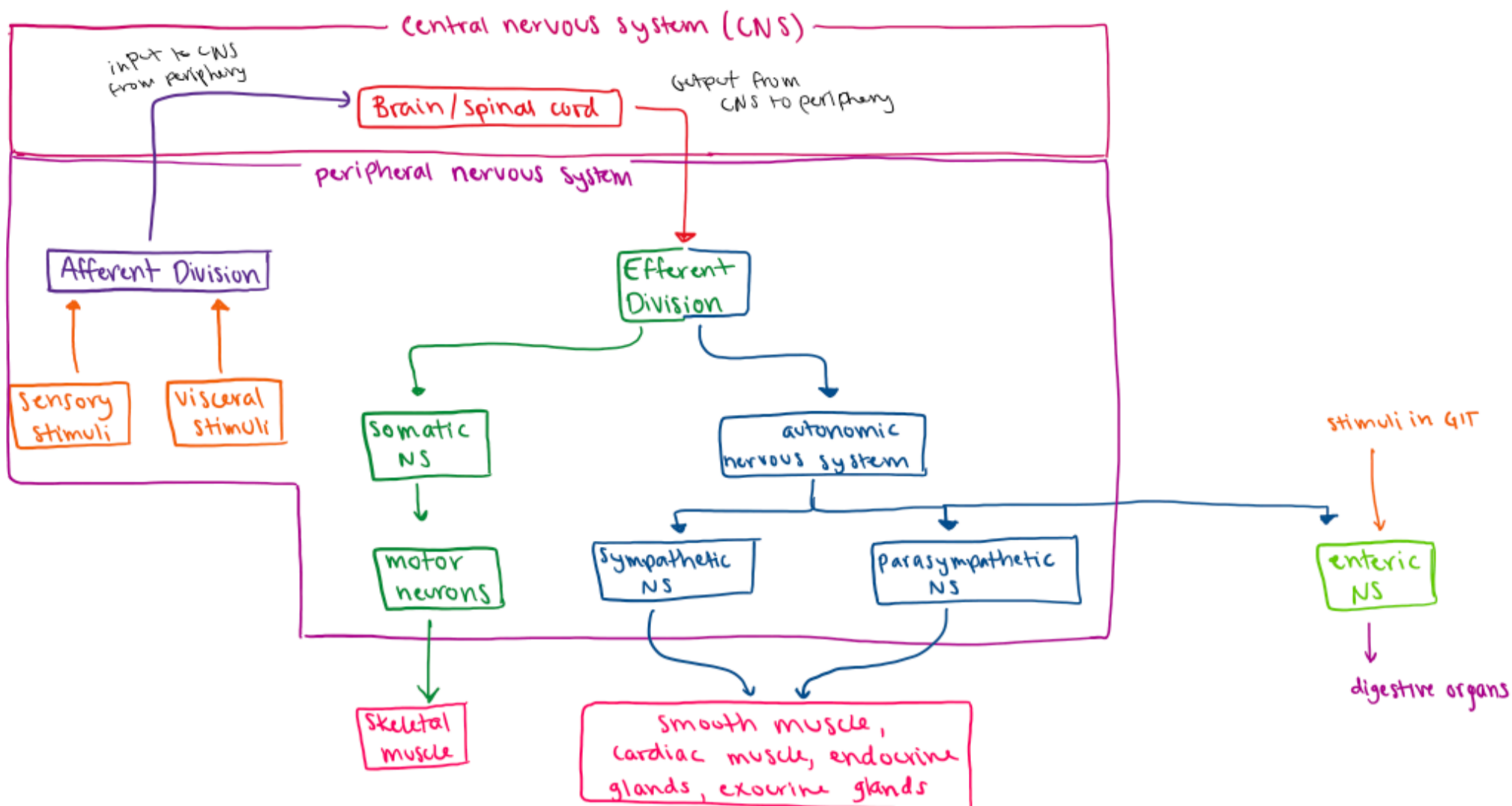


CNS (BRAIN + SPINAL CORD)

CNS + PNS OVERVIEW



CELLS OF THE CNS

• Neurons

- transmit electrical + chemical impulses
- spatial + temporal interpretation of impulses

• Glial Cells

- exist to physically, metabolically, and functionally support neurons

① ASTROCYTES

- extend foot processes that add another layer of covering to capillaries = Blood brain barrier
- repair injury by proliferation
- take up and degrade released neurotransmitters
- help transfer nutrients to neurons

② OLIGODENDROCYTES

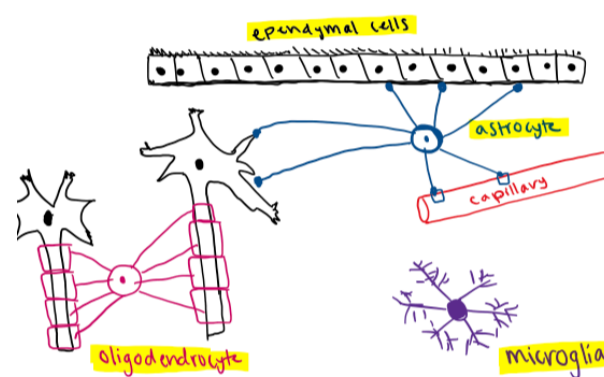
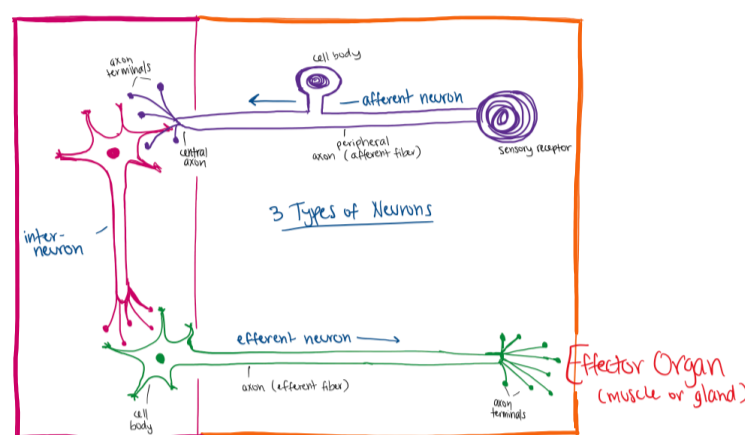
- myelination of axons within the CNS

③ MICROGLIA

- phagocytic scavengers
- release nerve growth factor
- immunosurveillance + immunoregulation
- monocyte-macrophage system

④ EPENDYMAL CELLS

- wall-off/line the ventricles
- CSF/movement of it



THE MENINGES

The Meninges = cover the CNS in 3 layers

- DURA MATTER (pachymeninges)
 - ↳ thickest layer - dense irregular connective tissue
 - ↳ outermost layer
 - ↳ provides protection to CNS
- ARACHNOID (leptomeninges)
 - ↳ attaches to dura and sends delicate trabeculae to pia
 - ↳ derived from neural crest
 - ↳ movement of CSF
- ↳ Subarachnoid space
 - where CSF circulates
- PIA MATTER (leptomeninges)
 - ↳ innermost layer, thin/delicate
 - ↳ adheres to the external surface of the nervous tissue

SPINAL CORD

