

# THE BRAIN!

## FOREBRAIN (PROSENCEPHALON)

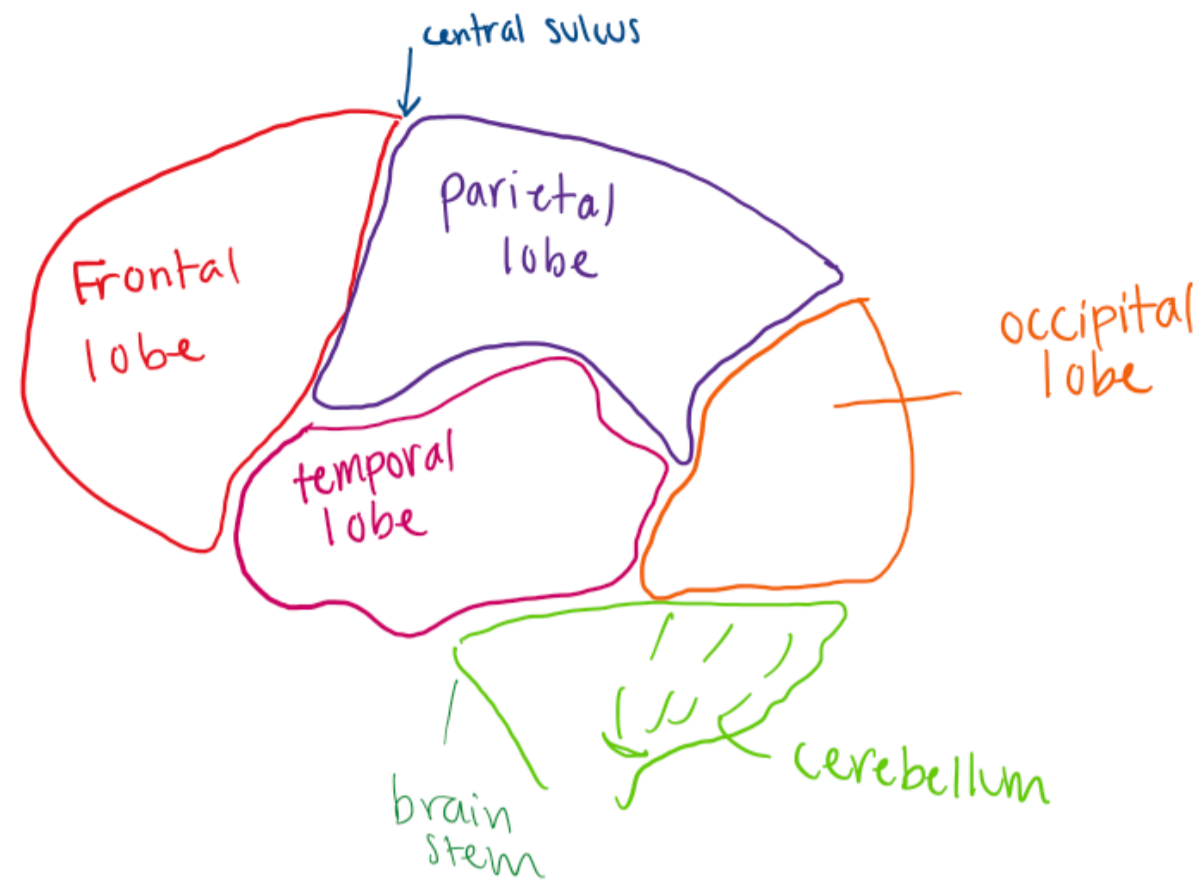
- lesions here usually show contralateral signs

### TELENCEPHALON

- cerebrum lateral ventricles
- contains: cerebral cortex, basal nuclei, limbic system
- lobes = frontal, parietal, temporal, frontal, occipital
- perception and processing of sensory input, information, voluntary motor control

### DIENCEPHALON

- THALAMUS third ventricle
  - ↳ relay station for afferent sensory fibers projecting to the cortex
- HYPOTHALAMUS
  - ↳ integrating center for homeostatic functions
- SUBTHALAMUS
- EPITHALAMUS
  - ↳ pineal gland
- part of UMN system
- CN I origin



## MIDBRAIN (MESENCEPHALON)

- lesions here produce abnormal mentation, disorders of ocular movement/position, postural reaction deficits, poor PLR
- Red nucleus = center for motor control of gait
  - ↳ relay station for synapses
- dorsal aspect = tectum mesencephalic aqueduct
- ventral aspect = tegmentum
- CN III, CN IV origin

## HINDBRAIN (RHOMBENCEPHALON)

- lesions in the pons and medulla cause ipsilateral motor and sensory deficits, vestibular, CN V-XII dysfunction, abnormal mentation, cerebellar lesion signs include incoordination, ataxia, hypermetria

### METENCEPHALON

#### • PONS

- ventral location
- UMN nuclei
- ascending sensory input from the limbs, body, head
- The ascending Reticular Activating System (ARAS) arises here → responsible for consciousness, alertness, prevents sensory overload

#### - CN V origin

#### • CEREBELLUM

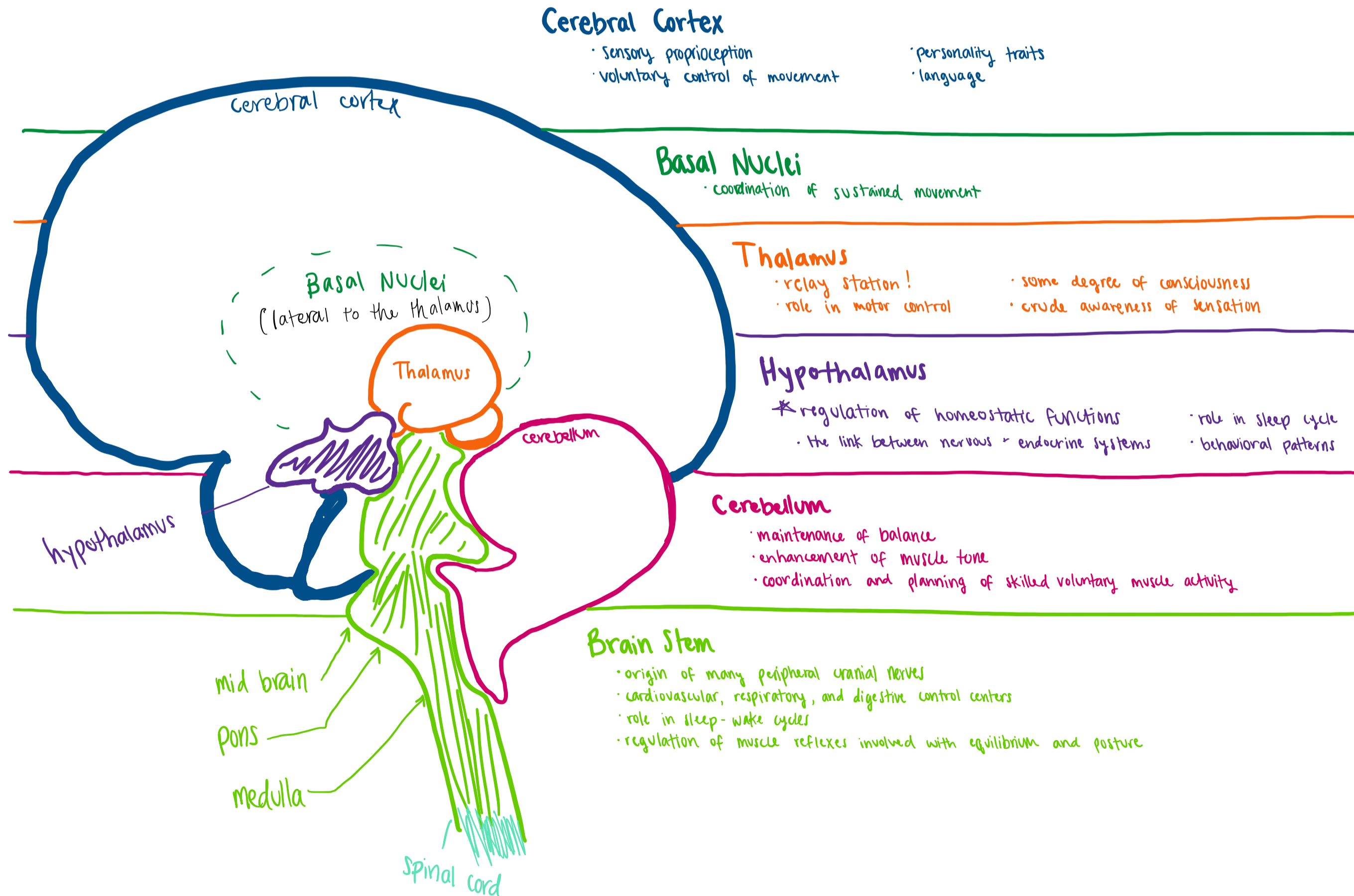
- dorsal location
- coordinates motor activity and helps regulate muscle tone

### MYELENCEPHALON

#### • MEDULLA OBLONGATA

- UMN nuclei
- major components for respiratory and cardiac functions
- descending motor input from forebrain
- CN VI-XII

fourth ventricle



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