The Brain

FIGURE 1: Gross Anatomy (Lateral View)

FIGURE 2: Lobes (Lateral View)

FIGURE 3: Ventricles & Flow of Cerebrospinal Fluid

- Cerebrospinal fluid (CSF) is produced by the choroid plexus of the lateral, third, and fourth ventricles. After flowing through the ventricles, CSF passes via the central canal of the spinal cord and the cerebral and spinal subarachnoid space, moving upward over the cerebral hemispheres.
- It is then absorbed into the venous blood mainly through the arachnoid villi.
- Changes in the carbon dioxide content of CSF affect the respiratory center in the medulla, which helps to regulate breathing.
- The volume of CSF in the average adult is about 140 mL, with about 23 mL in the ventricles and 117 mL in the subarachnoid space of the brain.

FIGURE 4: Midsagittal Section

- The brain consists of 3 main regions: the forebrain, midbrain, and hindbrain.
- The forebrain contains the diencephalon, which includes the thalamus, hypothalamus, and other structures associated with the limbic system, and the telencephalon, which includes the cerebral hemispheres.
- The diencephalon deals primarily with behavior and emotions, and the telencephalon performs sensory functions, motor functions, and functions associated with various mental activities.
- The main parts of the midbrain are the superior colliculi, which receive and integrate visual information, and the inferior colliculi, which receive and integrate auditory information.
- The hindbrain consists of the cerebellum, medulla oblongata, and pons, which function in movement coordination, homeostasis, and signal conduction, respectively.

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