SUPERIOR VIEW
Meninges
Dura mater The most superficial meninx, which forms a tough, leathery outer covering. It attaches to the periosteum of the skull.
Arachnoid mater The middle meninx appears as a thin, transparent membrane over the surface of the cerebrum. It does not dip into the depressions on the brain's surface. A small, subarachnoid space separates the arachnoid mater from the pia mater. In some areas, blood vessels, which appear black, are visible beneath the arachnoid mater.
Pia mater The innermost meninx is very thin and is in direct contact with the brain, following every convolution.
Superior sagittal sinus Large vein into which the arachnoid granulations project; a site where cerebrospinal fluid enters blood

Cerebrum
Gyrus (pl. gyri) Raised area on the surface.
Sulcus (pl. sulci) Depression on the surface.
Longitudinal fissure Deep division that separates the cerebrum into right and left halves.
Cerebral hemisphere Each half of the cerebrum
Corpus callosum Nerve tract (commissure) that connects each cerebral hemisphere. It can be observed by gently separating the cerebral hemispheres.

Cerebellum
Transverse fissure Deep division that separates the cerebrum from the cerebellum.
Gyrus Raised area on the surface.
Sulcus Depression on the surface.

Midbrain
Corpora quadrigemina Superior colliculi Larger, superior pair of bumps. Involved with visual reflexes.
Inferior colliculi Smaller, inferior pair of bumps. Involved with auditory reflexes.

Diencephalon
Pineal body A small round bump on the midline between the cerebral hemispheres. Produces the hormone melatonin.
<table>
<thead>
<tr>
<th>INFERIOR VIEW</th>
<th>Hypothalamus</th>
<th>Mamillary bodies</th>
<th>Pituitary gland</th>
<th>Midbrain</th>
<th>Medulla oblongata</th>
<th>Pons</th>
<th>Spinal cord</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The most inferior part of the diencephalon, it is barely visible except for the mamillary bodies. Affects the ANS and regulates the pituitary gland.</td>
<td>Two bumps on either side of the midline (often appears as a single midline bump). Part of the hypothalamus Involved with olfactory reflexes.</td>
<td>Small gland that probably is covered by bone from the sella turcica. Part of the endocrine system that releases hormones into the blood.</td>
<td><strong>Cerebral peduncles</strong></td>
<td>Inferior portion of the brain stem; connects to spinal cord.</td>
<td>Middle portion of the brain stem.</td>
<td>Inferior part of the central nervous system; connects the nerves of the peripheral nervous system to the brain and integrates many reflexes.</td>
</tr>
</tbody>
</table>
## Cranial Nerves and Nerve Tracts

<table>
<thead>
<tr>
<th>Nerve Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Olfactory bulbs</td>
<td>Two enlargements on the inferior surface of the cerebrum. They lie on the cribriform plate and receive the olfactory nerves from the nasal cavity.</td>
</tr>
<tr>
<td>Olfactory tract</td>
<td>Axons from the olfactory bulb that project to the primary olfactory area in the temporal lobes.</td>
</tr>
<tr>
<td>Optic nerves</td>
<td>Nerve tracts from the eyes that pass through the optic foramina.</td>
</tr>
<tr>
<td>Optic chiasma</td>
<td>X-shaped structure formed by axons from the optic nerve that cross to the opposite side of the brain.</td>
</tr>
<tr>
<td>Optic tracts</td>
<td>Axons from the optic chiasma that project to the primary visual area in the occipital lobes.</td>
</tr>
<tr>
<td>Oculomotor nerves</td>
<td>Two large nerves that arise from the inferior surface of the cerebral peduncles. Innervate the intrinsic and extrinsic eye muscles.</td>
</tr>
<tr>
<td>Trochlear nerves</td>
<td>Two thin nerves that arise from the lateral surface of the cerebral peduncles. Innervate extrinsic eye muscles.</td>
</tr>
<tr>
<td>Abducens nerves</td>
<td>Small nerves located near the midline at the boundary between the pons and the medulla. Innervate extrinsic eye muscles.</td>
</tr>
<tr>
<td>Trigeminal nerves</td>
<td>The largest cranial nerves. Located lateral to the abducens nerves at the boundary between the pons and the medulla. Transmits sensory information from the face and innervates the muscles of mastication.</td>
</tr>
<tr>
<td>Accessory nerves</td>
<td>Several tufts of nerve fibers arising from the lateral surface of the medulla. Part of this nerves form small cable-like extensions that innervate the trapezius and sternocleidomastoid muscles.</td>
</tr>
<tr>
<td>Hypoglossal nerves</td>
<td>Tufts of nerve fibers that arise near the junction of the medulla and the spinal cord. Innervate the tongue muscles.</td>
</tr>
</tbody>
</table>
Sagittal View

Repeat Structures
- Cerebrum
- Corpus callosum
- Cerebellum
- Hypothalamus
- Pituitary gland
- Infundibulum
- Mamillary body
- Cerebral peduncle
- Pineal body
- Superior colliculi
- Inferior colliculi
- Pons
- Medulla oblongata
- Spinal cord

New Structures
- Fornix: Nerve tract connecting the cerebrum and the mamillary bodies. Part of the limbic system.
- Septa pellucida: Thin partitions separating the lateral ventricles. Located between the corpus callosum and fornix.
- Thalamus: A two lobed structure covered by the cerebrum. From the sagittal view only a small part of a lobe is visible. A collection of nuclei that function as relay and integration centers for both sensory and motor nerve tracts.
- Intermediate mass: Connection between the lobes of the thalamus.
- Arbor vitae: White matter nerve tracts within the cerebellum.
- Lateral ventricles: Two cavities, each located laterally within a cerebral hemisphere.
- Third ventricle: Centrally located cavity between the lobes of the thalamus.
- Cerebral aqueduct: Connects the third and fourth ventricles. Passes through the midbrain.
- Fourth ventricle: Cavity at the base of the cerebellum.
- Central canal: Continuation of the fourth ventricle into the spinal cord.
Section 1
Cerebrum
Corpus callosum
Septa pellucida
Lateral ventricles
Thalamus
Basal nuclei

Collections of neuron cell bodies within the cerebrum

Section 2
Cerebrum
Third ventricle
Intermediate mass
Thalamus
Corpus callosum
Lateral ventricles

Subdural space

Space between the dura mater and the arachnoid layer. Injury to the brain or stroke can cause bleeding into the subdural space, producing a subdural hematoma.

Section 3
Cerebrum
Cerebral peduncle of midbrain
Cerebral aqueduct
Cerebellum

Section 4
Cerebrum
Pons
Fourth ventricle
Cerebellum

Section 5
Medulla oblongata
Fourth ventricle
Cerebellum

Section 6
Spinal cord
Cerebellum

Subarachnoid space

Space between the arachnoid layer and the pia mater; contains cerebrospinal fluid

Denticulate ligament

Connective tissue strands between the dura mater and pia mater