Sheep Brain Dissection

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 — Superior part of the brain stem.

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.

INFERIOR VIEW

Hypothalamus	The most inferior part of the diencephalon, it is barely visible except for the mamillary bodies. Affects the ANS and regulates the pituitary gland.
Mamillary bodies	Two bumps on either side of the midline (often appears as a single midline bump). Part of the hypothalamus Involved with olfactory reflexes.
Pituitary gland	Small gland that probably is covered by bone from the sella turcica. Part of the endocrine system that releases hormones into the blood.
Infundibulum	Stalk attaching the pituitary gland to the hypothalamus. It may appear as a short stump or even a hole if the infundibulum and pituitary gland are separated from the brain.
Midbrain	
Cerebral peduncles	Enlargements lateral and inferior to the mamillary bodies. Consists of descending motor nerve tracts.
Pons	Middle portion of the brain stem.
Medulla oblongata	Inferior portion of the brain stem; connects to spinal cord.
Pyramids	Two slightly raised areas on either side of the midline. The site of the pyramidal decussation.
Spinal cord	Inferior part of the central nervous system; connects the nerves of the peripheral nervous system to the brain and integrates many reflexes

Cranial Nerves and Nerve Tracts

Olfactory bulbs	Two enlargements on the inferior surface of the cerebrum. They lie on the cribriform plate and receive the olfactory nerves from the nasal cavity.
Olfactory tract	Axons from the olfactory bulb that project to the primary olfactory area in the temporal lobes.
Optic nerves	Nerve tracts from the eyes that passes through the optic foramina.
Optic chiasma	X-shaped structure formed by axons from the optic nerve that cross to the opposite side of the brain.
Optic tracts	Axons from the optic chiasma that project to the primary visual area in the occipital lobes.
Oculomotor nerves	Two large nerves that arise from the inferior surface of the cerebral peduncles. Innervate the intrinsic and extrinsic eye muscles.
Trochlear nerves	Two thin nerves that arise from the lateral surface of the cerebral peduncles. Innervate extrinsic eye muscles.
Abducens nerves	Small nerves located near the midline at the boundary between the pons and the medulla. Innervate extrinsic eye muscles.
Trigeminal nerves	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.
Accessory nerves	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.
Hypoglossal nerves	Tufts of nerve fibers that arise near the junction of the medulla and the spinal cord. Innervate the tongue muscles.

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.

Transverse Sections of the Human Brain

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