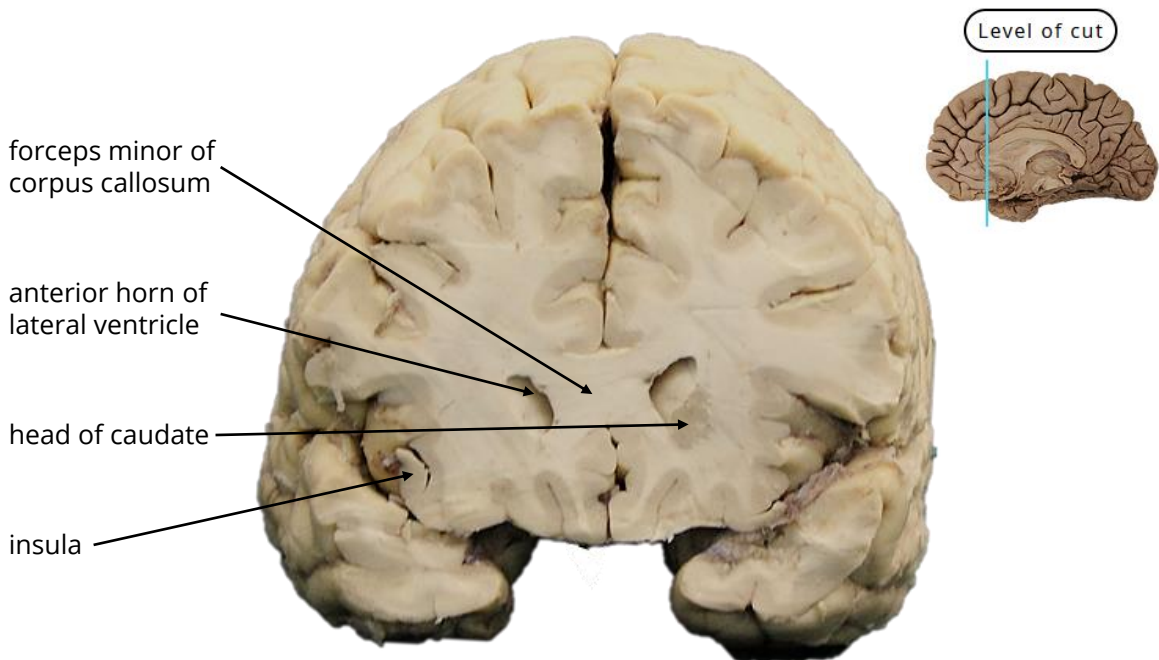


Coronal sections of the brain

Now that we have finished learning about the different structures of the cerebrum, we will examine them in the coronal sections. Using the hemisphere that has remained intact, make coronal sections according to the following instructions. After each cut identify the different structures in the anterior and posterior aspects of each section and compare them with the figures.

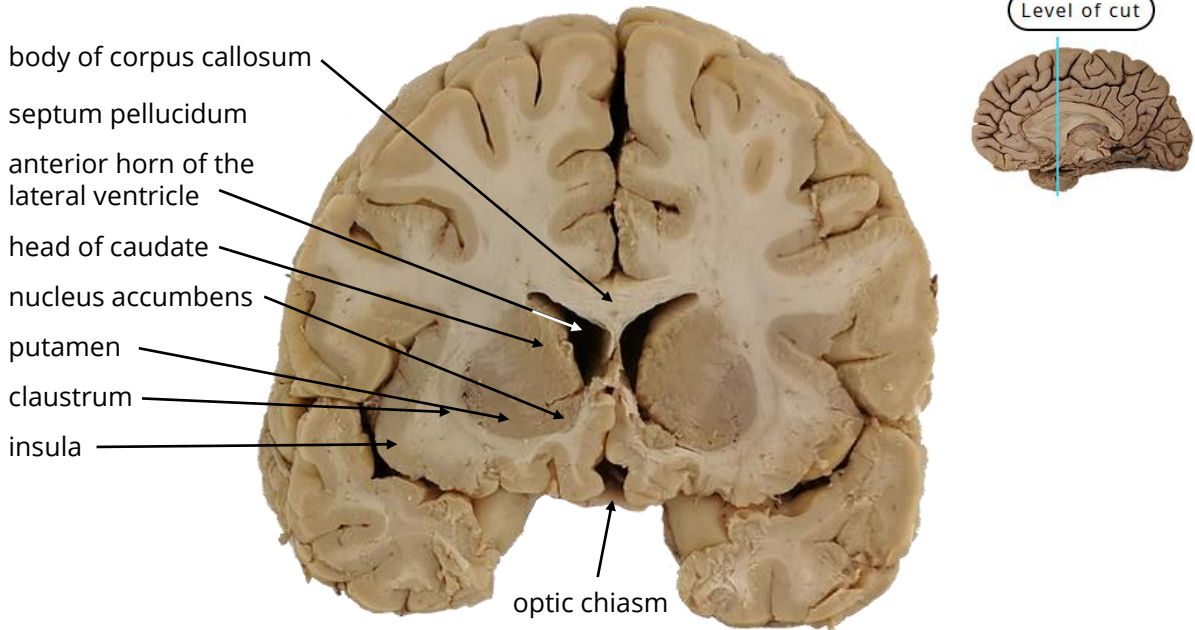
Cut through the genu of the corpus callosum

In this section, you can see the anterior horn of the lateral ventricle. The roof and medial wall are made of the white matter of the forceps minor of corpus callosum and the floor is the head of caudate nucleus. Notice the insula as well.



Cut through the optic chiasm

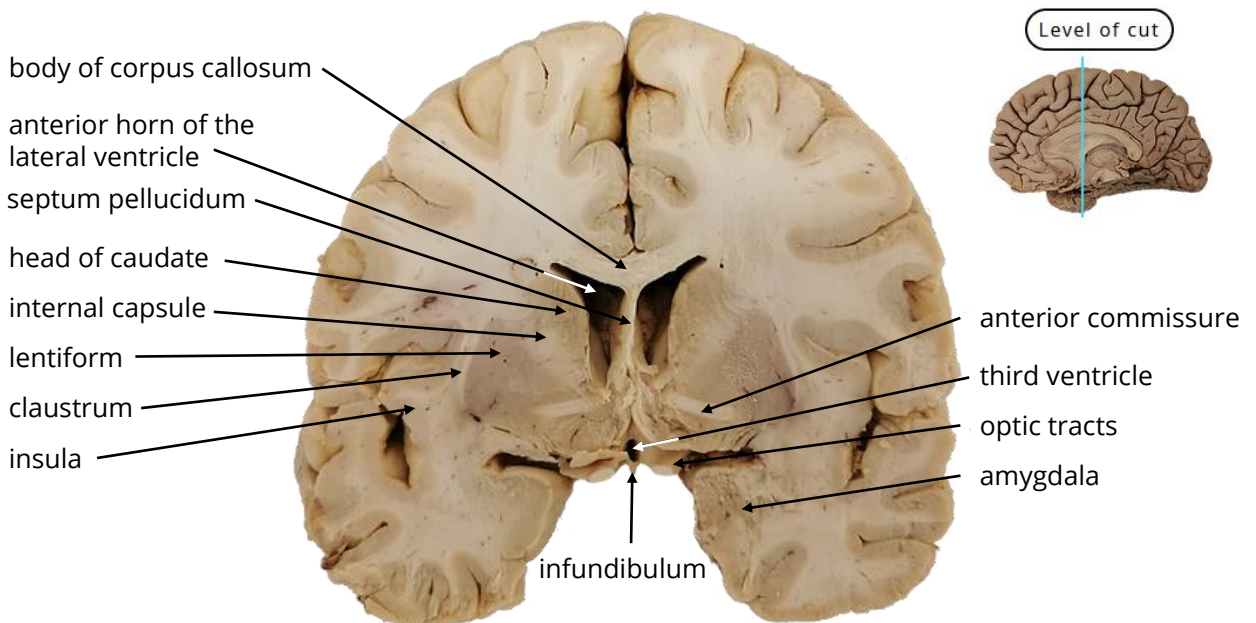
In this section through the optic chiasm, continue to follow the anterior horn of the lateral ventricle. The floor is made of the head of caudate nucleus, the roof is made of the body of corpus callosum and the medial wall is the septum pellucidum. In this section, you can also see the putamen, nucleus accumbens, claustrum and insula.



Cut through the anterior commissure

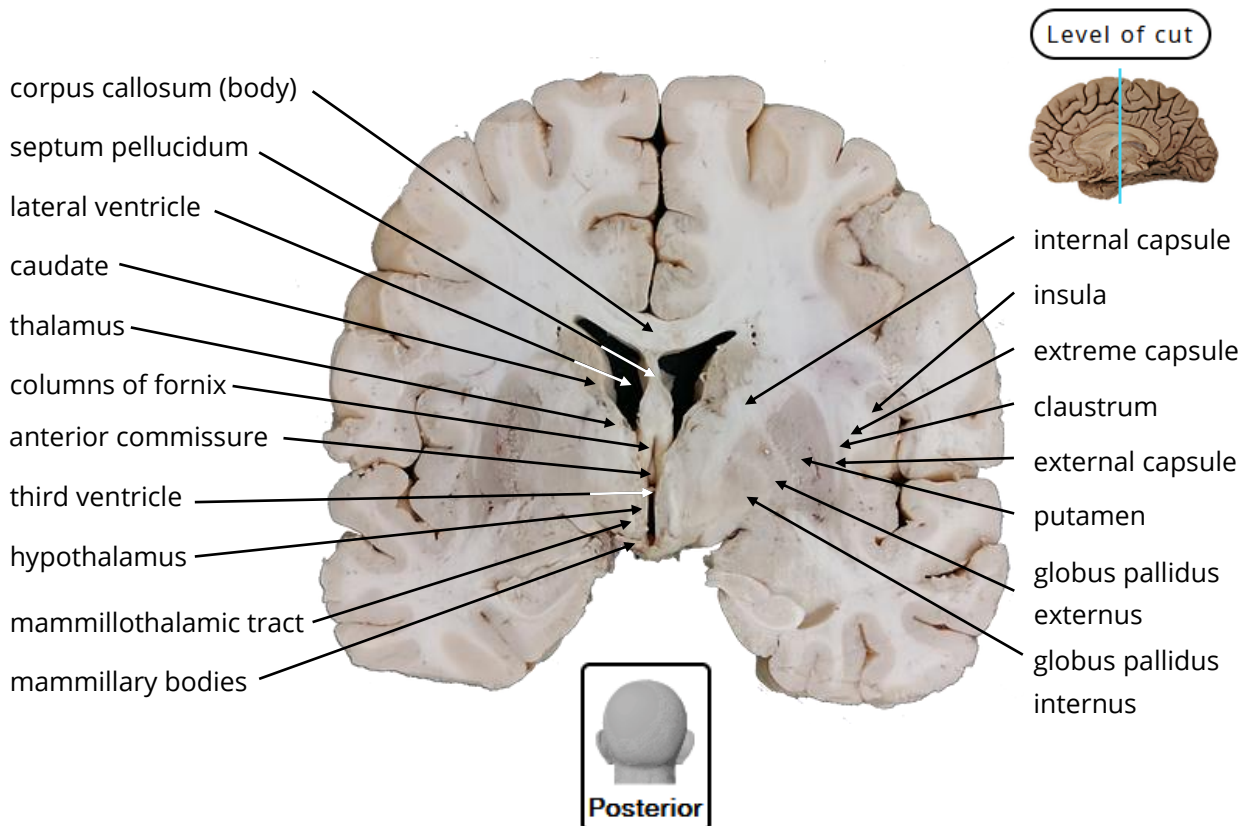
In this section through the anterior commissure, identify the optic tracts on both sides of the infundibulum. In this section, you can also see the anterior part of the third ventricle. In the temporal lobe, notice a gray matter nucleus, the amygdala (almond). In this section, the floor of the anterior horn of the lateral ventricle is made of the head of caudate nucleus, the roof is made of the body of corpus callosum and the medial wall is made of the septum pellucidum.

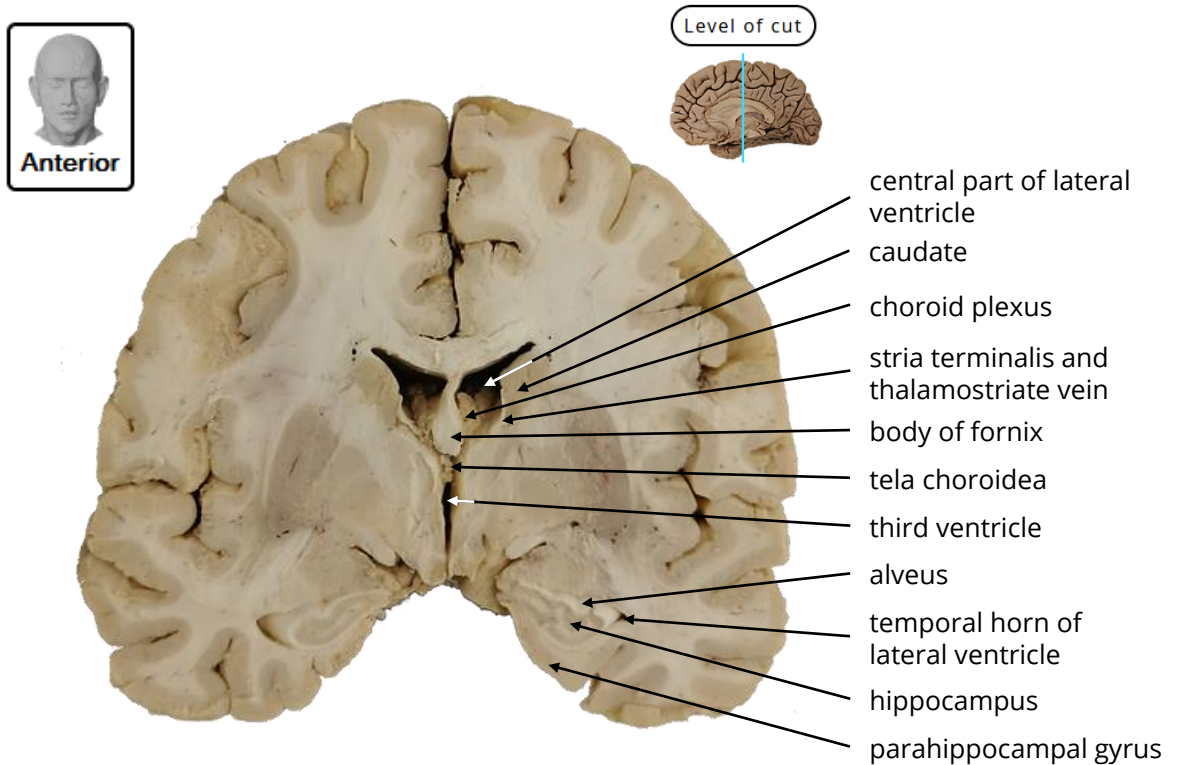
Also find the internal capsule, lentiform (putamen and globus pallidus), claustrum and insula.



Cut through the mammillary bodies

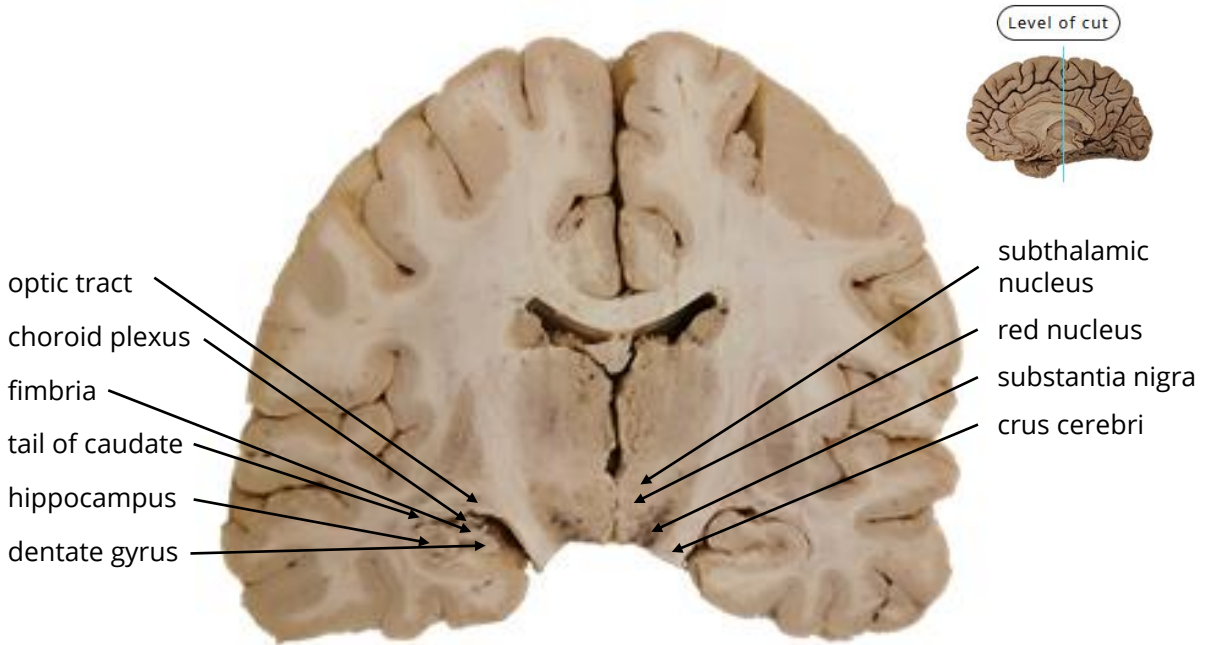
In this section, we see a posterior view of the anterior part of the brain and an anterior view of the posterior part of the brain. In the anterior part of the brain, notice the columns of fornix and anterior to them, the anterior commissure. In both parts of the brain, find the mammillothalamic tract. It is composed of the fibers that connect the mammillary bodies to the anterior nucleus of thalamus. In this section, you can see the third ventricle between the two hypothalami and the interventricular foramens that connect it with the lateral ventricles. In the posterior part of the brain, find the tela choroidea at the roof of the third ventricle below the body of fornix and the choroid plexus in the central part of the lateral ventricle. The floor of the central part of the lateral ventricle is the body of caudate and the thalamus. Between them, find the thalamostriate vein and stria terminalis. The roof is made of the body of corpus callosum and the medial wall is made of the septum pellucidum. In the temporal lobe, notice that we can now see the temporal horn of the lateral ventricle. At its floor, find the anterior part of the hippocampus (pes) covered with its white matter, the alveus. Notice how its cortex folds on itself and is continuous with parahippocampal gyrus. Identify the optic tracts and notice how they move laterally as we continue to more posterior sections. In this cut, you can identify the different nuclei of the lentiform: putamen, globus pallidus externus and globus pallidus internus. Here, you can clearly see the distinction between the internal capsule, external capsule, claustrum, extreme capsule and insula.





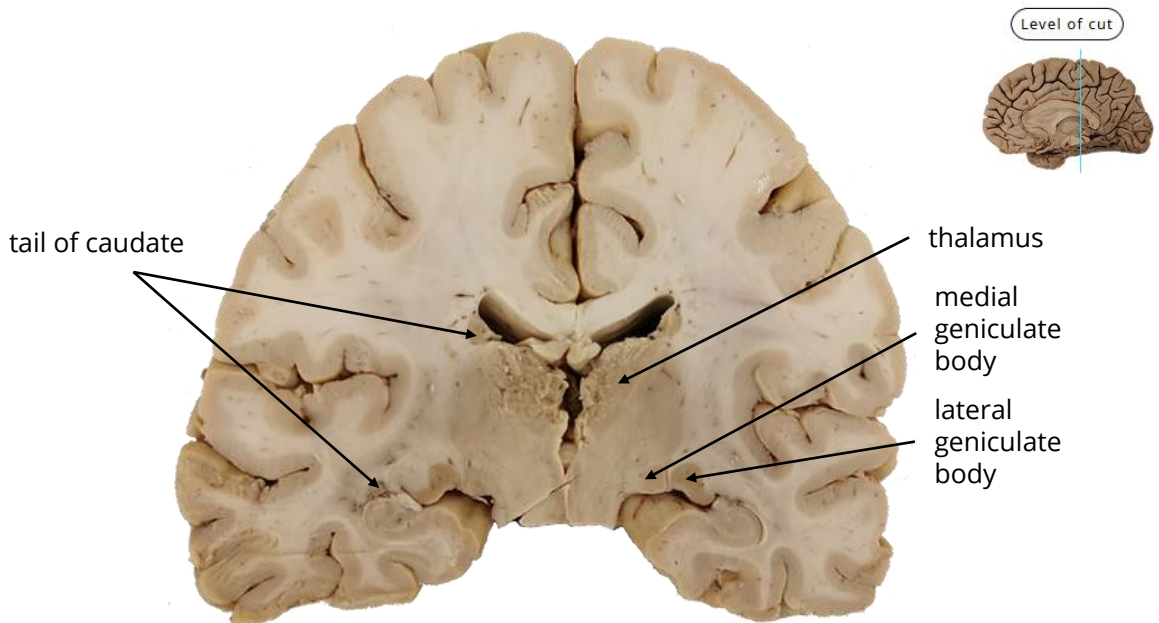
Cut through the tegmentum of the midbrain

In this section, you can see some of the structures of the midbrain such as the red nucleus, substantia nigra, subthalamic nucleus and the crus cerebri. Lateral to the crus cerebri of each side, find the optic tract. In the temporal horn of the lateral ventricle, you can see the central part of the hippocampus and the alveus. Notice a separate fold of white matter, the fimbria. Above it, find the choroid plexus and below it the dentate gyrus. At the roof of the temporal horn of the lateral ventricle, find the tail of caudate nucleus. Note that it is also present at the floor of the central part of the lateral ventricle. Identify the structures you have seen in the previous section that are also present here: corpus callosum, septum pellucidum, body of fornix, choroid plexus, thalamus, third ventricle, internal capsule, lentiform, external capsule, claustrum, extreme capsule, insula and parahippocampal gyrus.



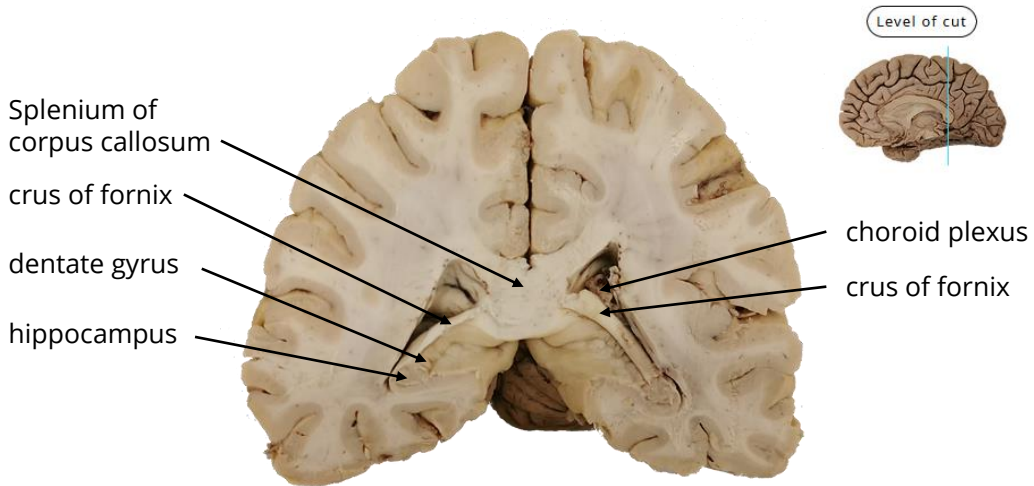
Cut through the lateral geniculate nucleus

In this section, you can see the lateral geniculate body and medial geniculate body of the thalamus. Identify the structures you have seen in the previous section that are also present here: central part of the lateral ventricle, corpus callosum, fornix, tail of caudate nucleus, third ventricle, temporal horn of the lateral ventricle, hippocampus, alveus, fimbria and dentate gyrus.



Cut through the splenium of corpus callosum

In this section through the splenium of corpus callosum, you can see the crus of fornix and how it is continuous with the fimbria. Identify the structures you have seen in the previous section that are also present here: hippocampus, dentate gyrus and choroid plexus.



Cut through the occipital horn of the lateral ventricle (right hemisphere)

In this section, you can see the occipital horn of the lateral ventricle, notice that it does not contain the choroid plexus. Find three bulges within it. The superior bulge is the bulb of the occipital horn that is formed by the forceps major of the corpus callosum. The middle and largest bulge is the calcar avis that is formed by the calcarine sulcus. The inferior bulge is the collateral eminence that is formed by the collateral sulcus. The lateral wall is composed of fibers of the corpus callosum that continue downwards, the tapetum. Laterally to it, find the fibers of the optic radiation of the internal capsule. It appears slightly darker because the cut was made perpendicular to the orientation of the fibers.

