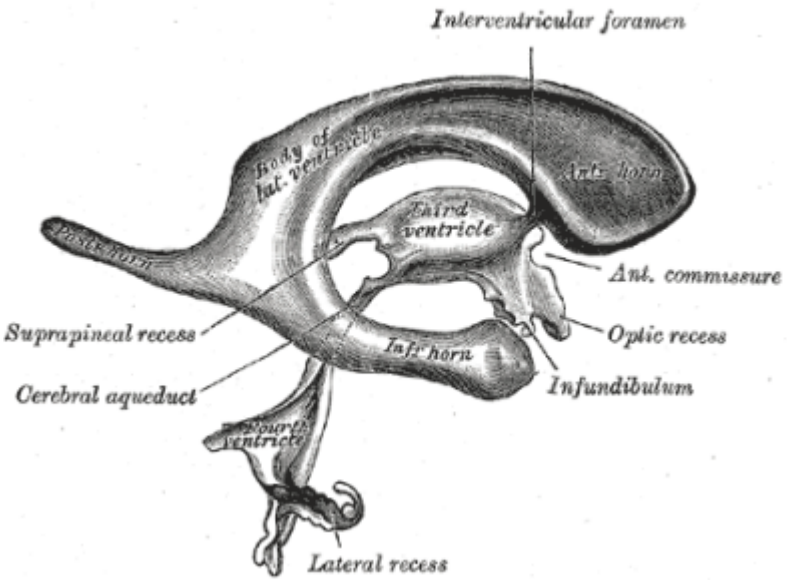
# Lateral ventricle




The lateral ventricles are part of the ventricular system

Classified as part of the telencephalon, they are the largest of the ventricles.

The lateral ventricles connect to the central third ventricle through the inter ventricular foramen of Monro.

Five parts can be described :

-The frontal horn anterior to the foramen of Monro

-The body from the foramen of Monro up to the point where the septum pellucidum ends and the union point of the corpus callosum and the fornix.

-The atrium

-The occipital horn a projection to the occipital horn

-The temporal horn a projection to the temporal lobe.

## Blood supply

The subependymal arteries (SEAs) are tiny vessels that supply the walls of the lateral ventricle, as well as the caudate nucleus and the stria terminalis occasionally

The SEAs were found to range in diameter from 40 to 490 microm (mean, 149 microm) and in number between 3 and 12 (average, 5.2). Of these, numbers from 1 to 3 originated from the anterior choroidal artery (AChA), between 1 and 10 from the lateral posterior choroidal artery (LPChA), 1 from the medial posterior choroidal artery (MPChA), and 1 from the internal carotid artery. The SEAs most often arose from the choroidal branches (90%) and less frequently from the thalamic (30%), caudate (35%), or thalamocaudate twigs (20%). The SEAs of the AChA supplied the walls of the temporal horn

(100%), the occipital horn (85%), and the atrium (35%). Those of the LPChA perfused the walls of the occipital horn (15%), the atrium (65%), the body of the ventricle (100%), and partially the frontal horn. The SEAs of the MPChA partially nourished the body and the frontal horn (10%). The SEAs may also occasionally supply the caudate nucleus (20%) and the stria terminalis. The anastomoses involving the SEAs were absent. In spite of this, ischemia in the territory of a single SEA was noticed in only 1% of the patients [1].

Lateral ventricle width is the prenatal imaging measurement that best predicts the need for postnatal CSF diversion [2]

## Pathology

Lateral ventricle tumor

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The transcortical middle frontal gyrus approach is an excellent route for the excision of tumors in the ipsilateral anterior horn of the lateral ventricle, the anterior body of the lateral ventricle, and the anterior or superior third ventricle.

1)
Marinković S, Gibo H, Filipović B, Dulejić V, Piscević I. Microanatomy of the subependymal arteries of the lateral ventricle. Surg Neurol. 2005 May;63(5):451-8; discussion 458. PubMed PMID: 15883071.
2)
Gu JL, Johnson A, Kerr M, Moise KJ Jr, Bebbington MW, Pedroza C, Sandberg DI. Correlating Prenatal Imaging Findings of Fetal Ventriculomegaly with the Need for Surgical Intervention in the First 3 Months after Birth. Pediatr Neurosurg. 2017;52(1):20-25. PubMed PMID: 27676186.