

# Ventricle approach

The [lateral ventricles](#) and [third ventricle](#) approach are particularly difficult because they are deeply located, because they are completely surrounded by nervous tissue (among which the motor and sensory areas, the visual pathway...), because of their curved shape, because of their wide variety in size among individuals and because the tiny foramen through which they connect with each other are prone to obstruction.

The lateral ventricles and the third ventricle are in close relationship with a complex arterial irrigation system and particularly with a deep venous system draining through the complex [Galenic system](#).

The ventricular system relationship with the surrounding nervous structures will determinate the capacity to approach the cerebral lesions as well as to explain neurological deficits produced by excessive dilation in hydrocephalus or by primary growing masses or by secondary invasion.

## History

When discussing approaches to the ventricular system, special attention should be given to Walter E. Dandy, who had unique interest in ventricular lesions and an unprecedented experience in dealing with them. In 1922, he described the first successful removal of a benign tumor in the third ventricle, occluding the foramen of Monro. Historically, two approaches were described by Dandy to reach the region of the anterior lateral and third ventricles: the posterior interhemispheric transcallosal and the anterior transcortical transventricular exposures.

The choice between either the anterior or the posterior approach was decided by the position of the tumor, diagnosed by ventriculographic investigations. If the lesion occupied only the posterior part of the third ventricle, the posterior transcallosal (Dandy's "pineal" exposure) approach was carried out. If the tumor occupied the anterior third ventricle and foramen of Monro, the anterior transcortical ("hypophyseal" exposure) approach was superior. Exposing the ventricular chamber via the frontal approach, Dandy used an oval resection or transverse section of the frontal lobe, usually on the right, nondominant side. He did not use the anterior transcallosal exposure because of the supposedly severe clinical effects resulting from sectioning the anterior part of the corpus callosum.

## Approaches to the third ventricle

see [Approaches to the third ventricle](#)

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