

Cerebral central core

The cerebral central core (CCC) is a topographical [area](#) located between the [sylvian cistern](#) laterally and the [third ventricle](#) medially. It has been described as a block that rests over the [midbrain](#). It includes the [insular cortex](#), [extreme capsule](#), [claustrum](#), [external capsule](#), [lenticular nucleus](#), [internal capsule](#), [caudate nucleus](#), and [thalamus](#). In addition, it is surrounded by a group of short and long association commissural and [projection fibers](#). This white substance, located between the peri-insular and [lateral ventricle](#) grooves, is known as the [cerebral isthmus](#) ¹⁾. It connects the nucleus of the central core with the rest of the [hemisphere](#). It also anatomically separates the [sylvian cistern](#) from the [ventricular system](#). As the topographic center of the [brain](#), it integrates various types of sensitive, [motor](#), [cognitive](#), and [emotional](#) information. A few investigators ^{2) 3) 4)} have recognized the CCC as a different region in the brain and highlight the importance of surgical planning. From a strictly neurosurgical point of view, its differentiation will be useful, because it contains eloquent structures of deep localization, with complex cisternal and ventricular relationships. Thus, Baldoncini et al. divided the CCC and proposed different neurosurgical [approaches](#) for each sector for the pathological entities located within this important anatomical region ⁵⁾

If the [insula](#) behaves as an external shield to the CCC ⁶⁾ and the latter is located above the [brainstem](#), one can easily understand that the [approaches](#) to this topographic sector will represent a great challenge. In addition, the CCC includes numerous [eloquent](#) cortical and subcortical structures. Therefore, the preoperative studies of each case must be carefully analyzed to understand the lesion's relationship to the location and, thus, enable selection of the most accurate and safe approach.

For those lesions with a lateral [ependymal](#) component in the [lateral ventricle](#), the contralateral [transcallosal](#) access will provide a greater angle of vision ^{7) 8)} without the need for retraction of the [cingulate gyrus](#) and [fascicle](#).

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