

Cognitive task

Cognitive tasks are those undertakings that require a person to mentally process new information (i.e., acquire and organize knowledge/learn) and allow them to recall, retrieve that information from memory and to use that information at a later time in the same or similar situation (i.e., transfer).

see [cognitive task analysis](#).

Mandonnet et al. reported a [case series](#) of four patients operated on for a [glioma](#) in [awake](#) conditions and in whom [task-based functional magnetic resonance imaging](#) (fMRI) demonstrated right-dominant activity during a [language production task](#). Language [functional](#) sites were identified intraoperatively by [electrical stimulations](#) only in the patient with a right-sided lesion. Furthermore, the pre- or postoperative [cognitive](#) evaluations in the three patients operated on for a left-sided [glioma](#) revealed right [spatial neglect](#) and [dysexecutive syndrome](#), hence demonstrating that, in patients with right-dominant activity on language fMRI, the left hemisphere is implicated in spatial [consciousness](#) and cognitive control. This study supports the interest of presurgical task-based language fMRI to identify patients with a reversed lateralization of [cognitive functions](#) and to make an adequate selection of the battery of intraoperative [cognitive tasks](#) to be monitored in those rare outliers ¹⁾.

¹⁾

Mandonnet E, Mellerio C, Barberis M, Poisson I, Jansma JM, Rutten GJ. When Right Is on the Left (and Vice Versa): A Case Series of Glioma Patients with Reversed Lateralization of Cognitive Functions. J Neurol Surg A Cent Eur Neurosurg. 2020 Feb 17. doi: 10.1055/s-0040-1701625. [Epub ahead of print] PubMed PMID: 32066189.

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