

Awake surgery for glioma

Craniotomies for [glioma surgery](#) under [conscious sedation](#) (CS) have been well-documented in the [literature](#) for [glioma surgery](#) that are in or adjacent to [eloquent areas](#) ^{1) 2) 3) 4) 5)}.

Awake surgery for glioma aims to maximize resection to optimize prognosis while minimizing the risk of postoperative deficits.

The oncological and functional results of awake glioma surgery during the learning curve are comparable to results from established centers. The use and utility of resection probability maps are well demonstrated. The [return to work](#) level is high ⁶⁾.

AC with the input of the speech and language therapist (SLT) and an experienced neuro-physiotherapist (NP) is a key component in ensuring optimal functional outcomes for patients with gliomas in eloquently located areas ⁷⁾.

[5-aminolevulinic acid guided resection](#) during awake craniotomy

Awake surgery for insular glioma

[Awake surgery for insular glioma](#)

Systematic reviews

[Awake surgery for glioma systematic reviews](#).

Case series

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 [Electrostimulations](#) 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 ⁸⁾.

Case reports

Corns et al. describe the case of a patient with recurrent left frontal Glioblastoma encroaching on

Broca's area (eloquent brain). Gross total resection of the tumour was achieved by combining two techniques, awake resection to prevent damage to eloquent brain and 5-ALA fluorescence guidance to maximise the extent of tumour resection. This technique led to gross total resection of all T1-enhancing tumour with the avoidance of neurological deficit. The authors recommend this technique in patients when awake surgery can be tolerated and gross total resection is the aim of surgery ⁹⁾.

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