

Insular glioma surgery complications

The [insula](#)'s proximity to [middle cerebral artery](#) and lenticulostriate arteries, primary [motor areas](#), and perisylvian [language areas](#) makes accessing and resecting gliomas in this region challenging ¹⁾. A good understanding of the surgical anatomy and an awareness of potential pitfalls can help reduce neurological complications and maximize surgical resection of insular tumors ^{2) 3)}.

There are still three major concerns about lesions that can impact the [quality of life](#) of patients in the postoperative period of [insular glioma surgery](#). The first is the damage to the [internal capsule](#) and [corona radiata](#) by direct manipulation, which can cause motor and sensory deficits in the contralateral hemibody. The second is the lesion of bundles and fascicles of white fibers surrounding the tumor, such as the [inferior fronto-occipital fascicle](#) (IFOF) and [superior longitudinal fasciculus](#) (SLF). And finally, there is a risk of arterial and venous vascular lesions ⁴⁾.

A meta-analysis of 890 insular glioma patients found the pooled incidences of new permanent motor and speech deficits following surgery to be 4% and 2%, respectively ⁵⁾.

¹⁾

Hervey-Jumper SL, Berger MS. Insular glioma surgery: an evolution of thought and practice. J Neurosurg. 2019 Jan 1;130(1):9-16. doi: 10.3171/2018.10.JNS181519. PMID: 30611160.

²⁾

Lang FF, Olansen NE, DeMonte F, Gokaslan ZL, Holland EC, Kalhorn C, Sawaya R. Surgical resection of intrinsic insular tumors: complication avoidance. J Neurosurg. 2001 Oct;95(4):638-50. doi: 10.3171/jns.2001.95.4.0638. PMID: 11596959.

³⁾ ⁴⁾

Isolan GR, Buffon V, Maldonado I, Monteiro JM, Yağmurlu K, Ribas CAPM, Roesler R, Malafaia O. Avoiding vascular complications in insular glioma surgery - A microsurgical anatomy study and critical reflections regarding intraoperative findings. Front Surg. 2022 Aug 5;9:906466. doi: 10.3389/fsurg.2022.906466. PMID: 35990093; PMCID: PMC9388914.

⁵⁾

Lu VM, Goyal A, Quinones-Hinojosa A, Chaichana KL. Updated incidence of neurological deficits following insular glioma resection: A systematic review and meta-analysis. Clin Neurol Neurosurg. 2019 Feb;177:20-26. doi: 10.1016/j.clineuro.2018.12.013. Epub 2018 Dec 17. PMID: 30580067.

From:

<https://neurosurgerywiki.com/wiki/> - **Neurosurgery Wiki**

Permanent link:

https://neurosurgerywiki.com/wiki/doku.php?id=insular_glioma_surgery_complications

Last update: **2024/06/07 02:57**

