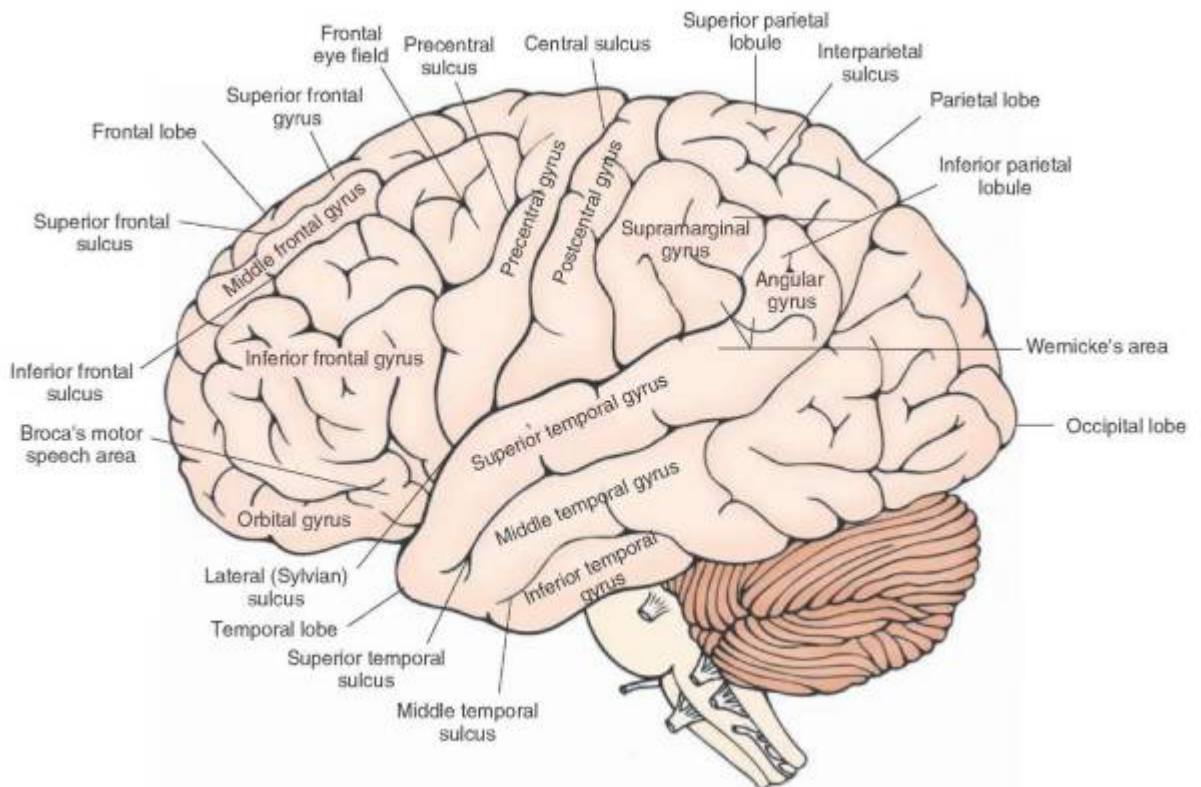


Superior parietal lobule



The superior [parietal lobule](#) is posterior to the [postcentral gyrus](#) and [postcentral sulcus](#).

Area of the cortex involved in peripheral processes specific to handwriting.

Damage to the left superior [parietal lobule](#), should generate distorted [graphemes](#) but not misspelled words, while damage to other areas of the cortex like the frontal lobe should produce alterations in written and oral spelling without distorted graphemes.

Magrassi et al. describe the clinical and neuropsychological features of a patient with combined [agraphia](#) for handwriting and typewriting bearing a small glioblastoma in the left parietal lobe. His agraphia resolved after antiedema therapy and they tested by bipolar cortical stimulation his handwriting abilities during an awake neurosurgical procedure.

They could reversibly re-induce the same defects of writing by stimulating during surgery a limited area of the superior parietal gyrus in the same patient and in an independent patient that was never agraphic before the operation. In those patients stimulation caused spelling errors, poorly formed letters and in some cases a complete cessation of writing with minimal or no effects on oral spelling.

The results suggest that stimulating a specific area in the superior parietal gyrus can generate different patterns of agraphia. Moreover, the findings also suggest that some of the central processes specific for typing and handwriting converge with motor processes at least in the limited portion of the superior parietal gyrus where the patient was mapped ¹⁾.

The superior parietal lobule was inconstantly involved in calculation processing (40% of cases in the left and 75% in the right side) ²⁾.

Approach

see [Superior parietal lobule approach](#).

References

1)

Magrassi L, Bongetta D, Bianchini S, Berardesca M, Arienta C. Central and peripheral components of writing critically depend on a defined area of the dominant superior parietal gyrus. *Brain Res.* 2010 Jul 30;1346:145-54. doi: 10.1016/j.brainres.2010.05.046. Epub 2010 May 24. PubMed PMID: 20580692.

2)

Della Puppa A, De Pellegrin S, Rossetto M, Rustemi O, Saladini M, Munari M, Scienza R. Intraoperative functional mapping of calculation in parietal surgery. New insights and clinical implications. *Acta Neurochir (Wien).* 2015 Jun;157(6):971-7; discussion 977. doi: 10.1007/s00701-015-2426-4. Epub 2015 Apr 30. PubMed PMID: 25921855.

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