

## Mobile phones and brain tumor risk

Two studies have published contradictory results on the risk of brain tumors associated with use of mobile phones. The first was published by Karpidis et al 2024 [The effect of exposure to radiofrequency fields on cancer risk in the general and working population: A systematic review of human observational studies – Part I: Most researched outcomes - ScienceDirect](#)

The authors concluded that: *For near field RF-EMF exposure to the head from mobile phone use, there was moderate certainty evidence that it likely does not increase the risk of glioma, meningioma, acoustic neuroma, pituitary tumours, and salivary gland tumours in adults, or of paediatric brain tumours.* Similar results were reported for use of cordless phones (DECT).

These results are in large contrast to the evaluation by Moon et al 2024. [s12940-024-01117-8](#)  
The conclusion was that: *Ipsilateral users [of mobile phones] reported a pooled odds ratio (OR) of 1.40 (95% CI 1.21–1.62) compared to non-regular users. Users with years of use over 10 years reported a pooled OR of 1.27 (95% CI 1.08–1.48). When stratified by each type of brain tumor, only meningioma (OR 1.20 (95% CI 1.04–1.39)), glioma (OR 1.45 (95% CI 1.16–1.82)), and malignant brain tumors (OR 1.93 (95% CI 1.55–2.39)) showed an increased OR with statistical significance for ipsilateral users. For users with years of use over 10 years, only glioma (OR 1.32 (95% CI 1.01–1.71)) showed an increased OR with statistical significance. When 11 studies with an OR with cumulative hours of use over 896 h were synthesized, the pooled OR was 1.59 (95% CI 1.25– 2.02). When stratified by each type of brain tumor, glioma, meningioma, and acoustic neuroma reported the pooled OR of 1.66 (95% CI 1.13–2.44), 1.29 (95% CI 1.08–1.54), and 1.84 (95% CI 0.78–4.37), respectively. For each individual study that considered cumulative hours of use, the highest OR for glioma, meningioma, and acoustic neuroma was 2.89 (1.41–5.93) (both side use, >896 h), 2.57 (1.02–6.44) (both side use, >896 h), and 3.53 (1.59–7.82) (ipsilateral use, >1640 h), respectively.*

Moon et al made a more thorough analysis including the risk in the most exposed part of the handheld mobile phone (temporal area), cumulative use, and ipsilateral use (same side of the brain as the localization of the tumor). These biologically most relevant issues were not further analyzed by Karipidis et al. Furthermore, Karipidis and other authors are members of ICNIRP, a pro industry organization thus giving conflict of interest.