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Dr Kamada is the Medical Director at Chitose City Hospital, Hokkaido, Japan. He served as the Vice President of Megumino Hospital, Neurosurgery from 2019 to 2024. He began his career as a resident in neurosurgery at Hokkaido University Hospital in 1988. Dr Kamada has served as Assistant Professor at the University of Tokyo and Professor and Chairman of Neurosurgery at Asahikawa Medical University. He has also been a guest professor at Stanford University, USA. His research focuses on functional brain mapping and brain-computer interfaces, with a clinical specialty in vascular, brain tumor, and epilepsy surgeries.

Topic: Benefit and Pitfall of Passive Functional Mapping for Brain Tumour Resection

Intraoperative electrocortical stimulation (ECS) and time-frequency analysis of evoked electrocorticogram (ECoG) have been widely employed for functional brain mapping during awake craniotomy. The ECS symptoms were suppressed once the HGA reached its top, indicating a strong relationship between speech production, HGA, and the effectiveness of ECS. Furthermore, it shows that patients that respond faster with earlier ECS (before HGA peak) compared to slower ones. Such personalized stimulation protocols can make functional mapping more efficient by reducing the time of stimulation, which can improve time-critical mapping during awake craniotomies.