



Eric Leuthardt

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Dr Eric C. Leuthardt, M.D., MBA, is the Shi Hui Huang Professor of Neurosurgery and Vice Chair of Innovation at Washington University in St. Louis. He is also a professor in the Departments of Neuroscience, Biomedical Engineering, and Mechanical Engineering. As the Chief Division of Neurotechnology, he is an internationally renowned innovator who has created and translated numerous high-impact medical innovations, including the first FDA-approved brain-computer interface for stroke, the first FDA-approved use of laser interstitial thermal therapy for brain tumors, advanced brain mapping techniques, and non-invasive brain biopsy using ultrasound. With over 200 peer-reviewed publications and 1600 patents, Dr Leuthardt is a pioneer in applied neuroscience. He has founded eight startup companies, is a partner of the venture fund E15, an Emmy Award-winning playwright, and is the author of two fiction novels.

Topic: The Application of LITT in Glioma Treatment

Laser interstitial thermal therapy (LITT) is a minimally invasive, MRI-guided technique that delivers focused laser energy to destroy brain tumors. This presentation discusses the applications of LITT in neurosurgery, including treatment of newly diagnosed and recurrent gliomas, difficult-to-access tumors, brain metastases, and radiation necrosis. The Washington University experience and national LAANTERN registry data demonstrate LITT's safety, efficacy, and potential to improve outcomes in these challenging cases. Compared to open surgery, LITT offers shorter hospital stays and lower complication rates. Beyond tumor ablation, LITT is being investigated for novel applications such as disrupting the blood-brain barrier to enhance drug delivery and modulating the immune environment in combination with immunotherapy. Ongoing clinical trials at Washington University are exploring these synergistic approaches. In conclusion, LITT is a promising technology that is transforming the treatment of brain tumors, with expanding indications and potential to enable novel therapeutic strategies.