

# A New Era of Precision in Brain Tumor Surgery

By Garni Barkhoudarian, M.D.



When I operate on a brain tumor, my goal is always the same: to safely remove as much of the tumor as possible while protecting healthy brain tissue. This balance is critical. For many patients, especially those facing brain cancer, every additional percentage of tumor we can remove safely can make a meaningful difference in outcomes and survival.

To achieve this level of precision, neurosurgeons use advanced tools in the operating room, including neuronavigation systems—similar to GPS for the brain—along with ultrasound and tumor-specific dyes.

Now, we're entering an important new era. Providence Saint John's Health Center and the Pacific Neuroscience Institute are among the first five organizations in the United States to use a new FDA-approved technology from Zeiss called CONVIVO. This tool allows us to view tumor tissue at the microscopic, cellular level during surgery. By combining high-resolution microscopy with fluorescent dyes, this technology helps us identify tumor cells in real time, including areas that otherwise may look normal to the naked eye or even under a standard operative microscope.

This "instant pathology" enhances our ability to make informed decisions during surgery. While it has shown particular promise for aggressive brain cancers such as glioblastoma, the technology is also valuable for patients with low-grade gliomas, pituitary tumors, Cushing's disease, craniopharyngiomas and other complex but benign brain tumors.

Being among the earliest adopters allows our team to build deep expertise with this technique and offer patients the most advanced care available.

*"This "instant pathology"  
enhances our ability  
to make informed decisions  
during surgery."*

Our commitment is to bring the most advanced neurosurgical care to our community—care that is effective, innovative, precise and centered on each individual patient. This technology represents another meaningful step forward as we care for patients facing some of the most challenging brain and pituitary conditions.

---

***Garni Barkhoudarian, M.D., is a neurosurgeon at Providence Saint John's Health Center and the Pacific Neuroscience Institute. To learn more, visit [pacificbraintumor.org](http://pacificbraintumor.org) or call 310-582-7450.***