

Title: New Hope for People with Brain Cancer, Such as Senator John McCain

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On July 20, America learned that one of its elder statesmen, Sen. John McCain, was diagnosed with a brain tumor. Regardless of party affiliation, politicians and other citizens from around the country were saddened and wished McCain and his family well.

The news is unfortunate because the 80-year-old senator's tumor is a glioblastoma multiforme or GBM, the most aggressive of all primary brain tumors. "The average length of survival for people with GBM is 12 to 14 months, and life expectancy is often shorter for patients over 60 or 65," says Dr. Lawrence Dickinson, M.D., Neurosurgeon at Sutter Health Eden Medical Center.

Treatment usually involves surgery to remove as much of the tumor as possible. "If it's possible to remove the tumor safely then surgery is prioritized" advised Dr. Dickinson. Radiation and chemotherapy can also be used to help control growth (or regrowth) of the tumor.

Goals of Surgery

At Eden Medical Center, highly trained neurosurgeons are now using new technology called BrightMatter™ to see a complete 3-D map of a patient's brain fibers – the connections that control body functions like speech, movement and learning. Being able to see this map during surgery helps surgeons navigate their instruments around healthy tissue, veins and nerve fibers in order to access and remove a GBM tumor without disturbing or damaging other critical structures in the brain.

"This technology gives me the ability to access deep seated tumors once deemed inoperable because the software finds a safe passage for my tools" said Dr. Dickinson. "The improved optics and preciseness of BrightMatter™ affords a higher probability of total tumor resection and this correlates to longer survival."

Safe surgical removal of a tumor can not only improve survival, but also relieve certain deficits the patient may be experiencing and give the patient more time with their loved ones.

"BrightMatter™ allows the safest, and least invasive tumor removal and the patient spends minimal amount of time in the hospital, thus has more time at home with family."

Advances in Precision Medicine

"Glioblastoma multiforme is an aggressive tumor, which often regrows, removal and adjunct therapy can extend longevity and improve quality of life by remediating symptoms and neurologic deficits" said Dr. Dickinson. "But we have to develop a better strategy for eradicating these tumors."

Eden Medical Center, Pacific Brain and Spine and EpicCare, in association with Dr. Liliana Sorciano at California Pacific Medical Center, have developed a personalized, genome-based oncologic treatment program for patients that incorporates a mouse Avatar program. Using this new program doctors can directly test various intravenous and oral drugs on the actual tumor from a patient to determine if there is potential efficacy.

In addition, Cancer Program providers at Eden Medical Center offer inter-professional clinics where neurosurgery, radiation oncology and medical oncology providers meet simultaneously with the patient to provide comprehensive, coordinated care. Brain cancer is one of the most challenging diagnoses a patient can receive, we offer our thoughts and well wishes to Senator John McCain, his entire family and patients across the country battling brain cancer.

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