



## **Treatment of Brain Tumors - Optimism for the Future**

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Despite remarkable advances in Neurosurgery over the last few decades, most people remain convinced that the majority of brain tumors are inaccessible, inoperable, and incurable. The prognosis of many such lesions varies, depending not only on tissue type, but also on tumor location, size at the time of diagnosis, and whether there is involvement of adjacent structures within the nervous system.

The Western Regional Center for Brain and Spine Surgery (Drs. Steven W. Agata, Benjamin H. Venger, William D. Smith, John A. Anson, and Derek A. Duke) is the largest Neurosurgical practice in Southern Nevada. In addition to our three Las Vegas clinics, satellite offices in Laughlin, NV; Bullhead City, Kingman, and Lake Havasu, Arizona; St. George, Utah; and Needles, California, support a regional network dedicated in providing local Neuro-oncology care for patients in all communities of Nevada and the surrounding areas. We now hope to embark upon a new era directed in the treatment of all types of intracranial lesions.

To begin this journey, we must expand upon what we have previously thought of as "brain tumors". In the past, these lesions were thought of as the cancer of children, adolescents and adults, arising or recurring from the nerves of the brain itself. We must now recognize that in affecting our patient's lifestyle or lifespan, these tumors need not destroy or replace normal tissue of the brain. "Benign" brain tumors are, if properly situated, equally as devastating as their malignant cousins.

We must also recognize the diversity of brain tumors encountered in individuals of all ages. Factors such as immune competency, functional status, and the effects of palliation, need all be carefully considered with regard to prognosis and treatment. Paramount however, after all informed discussions have taken place, is the patient and their family's ultimate wishes.

As with all forms of cancer, time is of the essence. Research into tumor markers and genetics now play an ever-increasing role in identifying individuals at risk. Advances in imaging are key in the early detection and localization of discrete brain masses or suspected microscopic intracranial disease. Still other imaging techniques assist in the determination of viable tumors within an array of already treated brain tissue.

Many of these same imaging techniques have been merged with other surgically based technologies. This has resulted in intraoperative navigation systems, which allows for real-time localization of not only lesions in question, but also the pathways through the brain that allow safe passage. Routinely, we can now access areas of the brain previously considered unreachable.