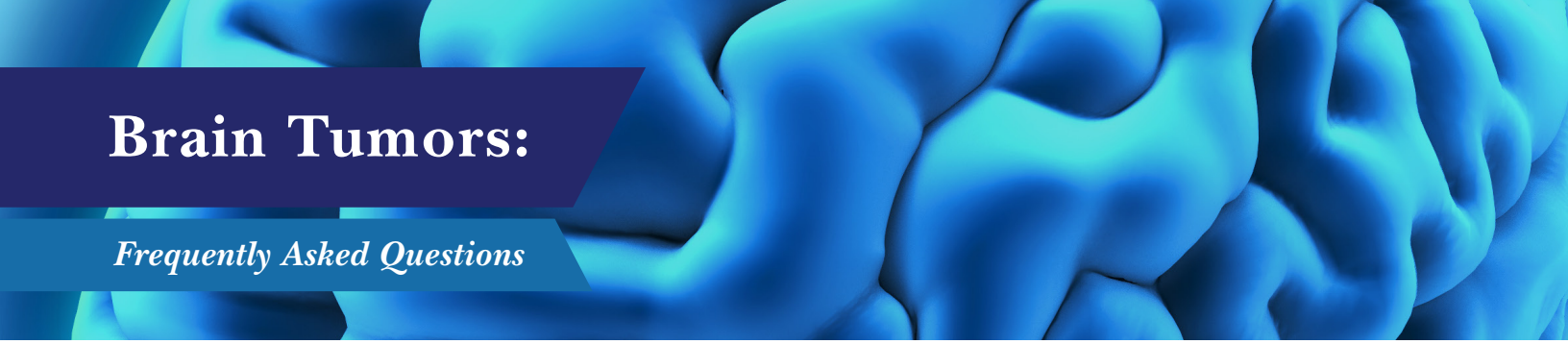

Brain Tumors:

Frequently Asked Questions

What is Advanced Neurosurgery Associate's experience with brain tumors?

At ANA, we have nearly three decades of experience treating brain tumors. This includes pioneering many procedures that are commonly used today. For example, ANA was one of the first groups in the region to utilize minimally invasive approaches in neurosurgery for the treatment of brain tumors. In addition to other advanced training, Dr. Arno Fried completed a fellowship in neuro-oncology with the American Cancer Society.

What is the difference between a benign and malignant brain tumor, and how does that relate to surgery?

Benign brain tumors are noncancerous while malignant brain tumors are fast-growing cancers that can originate in the brain (primary tumors) or originate in another part of the body and spread to the brain (secondary tumors). Malignant tumors typically grow quicker than benign tumors, aggressively invading surrounding tissue. These types of tumors most often require additional treatments such as radiation and/or chemotherapy or biological agents.

As a slower growth, benign brain tumors usually have clearly defined borders and are not deeply rooted in brain tissue. Assuming they are in an area of the brain that can be safely operated, this makes them easier to surgically remove.

Once removed, benign tumors are less likely to recur than malignant ones. They can still return, but it is unlikely.

What is a typical brain tumor surgery?

For a typical brain tumor surgery, there are two main objectives:

- Obtain tissue to make a diagnosis
- Remove the tumor (total or partial removal)

At ANA, our multidisplinary team of experts is committed to the best possible result and that team includes surgeons, neurologists, neuro-pathologists, neuro-oncologists, radiologists, radiation oncologists and specialized nurses.

The following is a list and explanation of the brain tumor surgeries we perform:

STEREOTACTIC BIOPSY

Stereotactic biopsy maps the brain in a three-dimensional coordinate system. In conjunction with MRI and CT scans, the neurosurgeon is better equipped to accurately target the area of the brain in question. This allows the neurosurgeon to easily and safely remove small pieces of the tumor to determine what it is and how best to treat it.

DEBULKING

Debulking is the surgical removal of a portion of a tumor in order to decrease the tumor burden on a patient and/or to decrease the mass effect on surrounding structures. This technique is often performed in brain surgery when the entire tumor cannot be removed without serious damage to proximate structures.

GROSS TOTAL RESECTION (GTR)

GTR is removal of all visible tumor in which subsequent scans show no apparent tumor. GTR is considered when the surgeon believes the entire tumor can be safely removed without substantial risk of unacceptable injury.

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Brain Tumors:

Frequently Asked Questions (Cont'd.)

ENDONASAL ENDOSCOPY (ALSO CALLED "TRANSPHENOIDAL APPROACH ENDSOCOPY")

An innovative and minimally invasive surgical technique, endonasal endoscopy allows the neurosurgeon to remove brain tumors or lesions that are skull-based in the pituitary area.

STEREOTACTIC RADIOSURGERY

ANA is experienced in stereotactic radiosurgery, also known as Gamma Knife® or CyberKnife® radiosurgery. It is a non-invasive (no cutting) procedure used to treat brain lesions that are small, inoperable or are residual tumors left after a debulking. It is a same day radiation treatment procedure done to halt the growth and sometimes shrink these lesions.

Are all tumors operable?

With advances in neurosurgery and technology, most tumors are operable, and many are curable. While some may be inoperable, there are protocols available to treat all tumors. At ANA, we also collaborate with pediatric oncologists to consider and implement every possible treatment option.

For operable tumors, however, surgery is often indicated. At ANA, we are widely experienced in all brain tumor surgery. In addition, follow-up surgical treatment is a comprehensive and ongoing process.

Following surgery, a multi-disciplinary team of medical experts, called the Tumor Board, convenes to review the patient's condition, needs and test results. This team approach is part of a patient's personalized treatment protocol that ANA is an integral part of.

What is a clinical trial, and should I explore being part of one?

ANA has access to a wide range of clinical trials to which our experts can guide a patient whenever beneficial and relevant. Clinical trials are rigorously controlled tests of new drugs, medical devices or procedures.

Besides helping to develop future treatments, the benefit of participating in clinical trials with ANA is that patients gain access to treatments that are not yet widely available. Moreover, in the case of pediatric tumors, clinical trials are a key factor in improving both treatments and prognosis.

Our team will explain Phase 1, 2 and 3 clinical trials as well as the benefits and risks of participating in one of them. As always, our goal is to build patient trust by way of information and inclusion in the process.

How can my family and I cope with a brain tumor?

Every family reacts to a brain tumor diagnosis and treatment in their own way. Regardless of the family's reaction, studies have shown that brain tumor patients and their relatives often need more support than do patients diagnosed with other types of lesions. At ANA, our experienced brain tumor team also includes psychiatrists, psychologists, child life specialists and social workers. We recognize the need for support in this incredibly stressful time, and we are committed to providing compassionate care.

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