



A PATIENT GUIDE

# Brain and Spinal Cord Tumor Testing



At Belay Diagnostics, we see the need to provide better diagnostic tools for evaluating suspected brain tumors. Our mission is to serve patients with these conditions and those who care for them.

## CNS Tumors

Brain and spinal cord tumors are known as central nervous system (CNS) tumors. There are many different CNS tumor types. A clear diagnosis is essential so that you and your clinician can make informed decisions about your health.

## Cells and Genes

The human body is composed of trillions of cells that make up the body's organs and tissues. Each cell in turn contains your DNA (deoxyribonucleic acid), the genetic code acts as your body's instruction manual, telling your body how to function.

Over time, changes in your DNA can cause cells to malfunction. Cells may not expire as intended. New cells may grow that your body does not need, resulting in a mass or tumor.

## Malignant or Benign?

When abnormal cells grow in the tissues of the brain or spinal cord, they may be benign (noncancerous) or malignant (cancerous). Malignant tumor cells can migrate and invade other tissues of the body, whereas benign tumor cells generally do not spread.

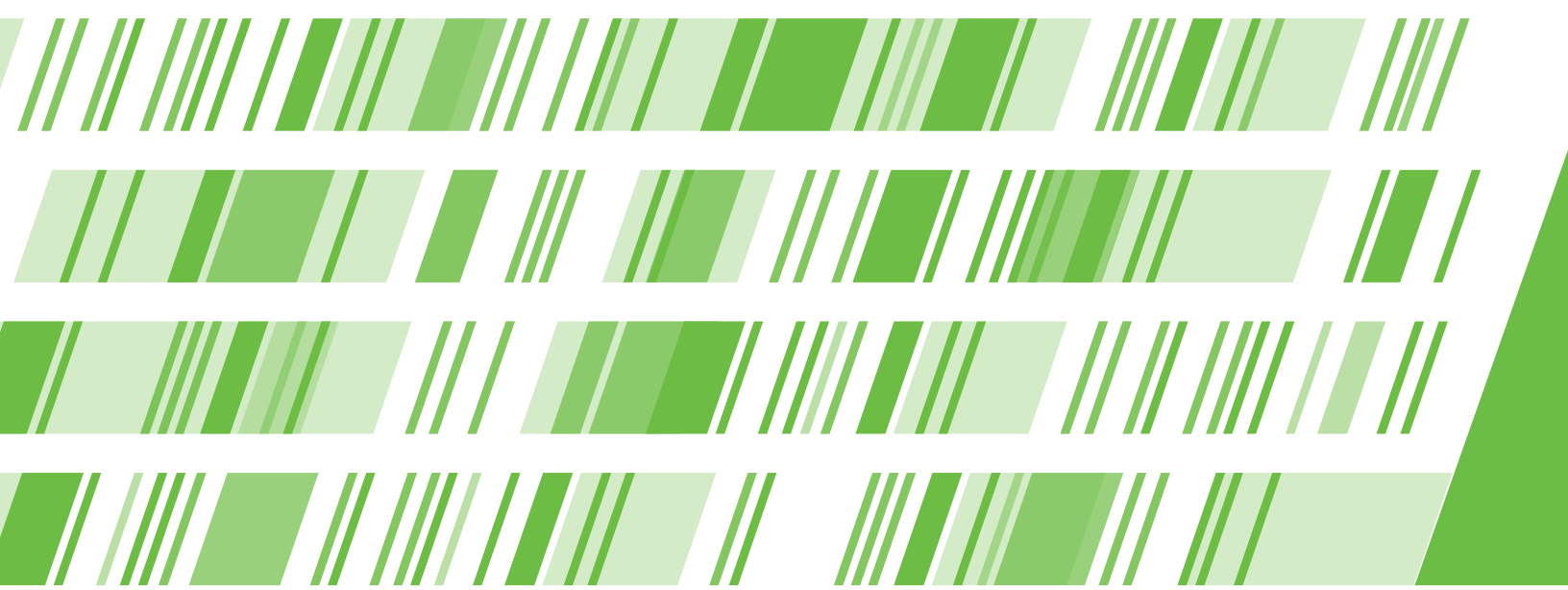
## Tests Used to Detect CNS Tumors

Tests that help examine the brain and spinal cord include cytology, imaging and biopsy.

Cytology involves studying cells under a microscope to look at their structure and shape for abnormalities, which may indicate disease.

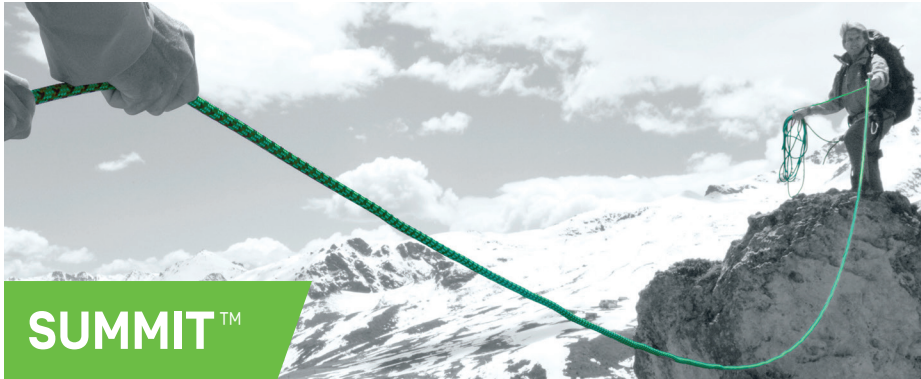
A brain MRI (Magnetic Resonance Imaging) creates detailed images of the brain, allowing doctors to diagnose a variety of neurological conditions including brain and spinal cord tumors.

In a biopsy, a small tissue sample from an unusual brain lesion is surgically removed and examined by a pathologist to diagnose brain and spinal cord disease.



## Summit™ and Vantage™ Testing from Belay Diagnostics

Summit and Vantage are high performance tests that use proprietary technology to evaluate genes. These tests provide in-depth genomic information that identify and characterize a patient's unique genes as well as how they interact with each other. The tests are innovations based on extensive scientific research at Johns Hopkins University, one of the world's premier institutions for oncology.



Summit is advanced molecular testing that uses the patient's cerebrospinal fluid to aid in the diagnosis of CNS tumors. It's less invasive than a brain biopsy. Summit is used to determine if certain genes associated with brain and spinal cancers are present. This is an important first step since genes serve as biomarkers to indicate the type of CNS cancer in a tumor. It's equally important to determine if genes

are absent, as this may indicate a patient's tumor is benign. Genes investigated are included in the Belay Diagnostics test report. The National Comprehensive Cancer Network has developed guidelines and recommended therapies and clinical trials based on biopsy results and the biomarker genes in the Belay report. Detection of genomic alterations guides your physician with respect to therapeutic decisions.



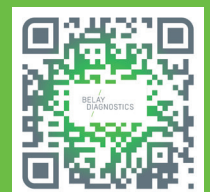
Vantage is new testing by Belay Diagnostics that also uses cerebrospinal fluid. In certain CNS tumors, it is used to determine if a specific gene named *MGMT* is present. If positive, this gene signals a positive prognosis and opens the door for the use of specific therapies where the patient is likely to have a better therapeutic response.

### When Your Doctor Recommends Testing by Belay Diagnostics

If your doctor suspects a CNS tumor, Belay testing may be ordered. The test requires a sample of cerebrospinal fluid (CSF), the clear fluid that cushions the brain and spinal cord. A CSF sample is a commonly ordered test that requires a lumbar puncture or spinal tap. The doctor will complete the test requisition and ask you to sign the informed consent form to expedite the process. Results are typically available in 7-10 business days. Your doctor will review your results with you.

### Patients Should Have Access to Healthcare

Belay Diagnostics is committed to providing advanced testing to all eligible patients. While we are working to secure broad insurance coverage from major payers for our patients, we provide self-pay options for patients, discount pricing for prompt payment and tiered pricing based on income. Belay testing is a qualified medical expense and HSA (Health Savings Account) and FSA (Flexible Spending Account) apply. For test information, billing or any other questions, please contact Belay Customer Service at [billing@belaydiagnostics.com](mailto:billing@belaydiagnostics.com) or 331-320-0155.





This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Belay Diagnostics in a manner consistent with CLIA requirements.

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