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Brain Stem Glioma - Childhood - Diagnosis [1]

This section has been reviewed and approved by the Cancer.Net Editorial Board [2], 04/2015

ON THIS PAGE: You will find a list of the common tests, procedures, and scans that doctors can use to find out what?s wrong and identify the cause of the problem. To see other pages, use the menu on the side of your screen.

Doctors use many tests to diagnose a brain stem glioma and find out if it has spread to another part of the body, called metastasis. Some tests may also determine which treatments may be the most effective. For most other types of tumors, a biopsy is the only way to make a definitive diagnosis. In general, a biopsy is avoided in children with diffuse brain stem glioma because the results of the biopsy do not change treatment options. In addition, the procedure can have serious risks. However, a biopsy may be used when a brain stem glioma has unusual features. As new treatments based on molecular information from the tumor increase and the risk of a biopsy decreases, these procedures may be done more often.

For most patients, diagnosing a brain stem glioma is done with magnetic resonance imaging (MRI) only (see below). Because of this, diffuse brain stem glioma is unlike most other tumors. For a focal tumor, a biopsy and removing the tumor with surgery may be considered. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Other imaging tests may be used to find out whether the tumor has spread.

This list describes options for diagnosing brain stem glioma, and not all tests listed will be used for every person. Your child?s doctor may consider these factors when choosing a diagnostic test:

- Age and medical condition
- Type of tumor suspected
- Signs and symptoms
- Previous test results

In addition to a physical examination, the following tests may be used to diagnose a brain stem glioma:

- **MRI [3].** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a patient?s vein or given as a pill to swallow.
- **Computed tomography (CT or CAT) scan** [4]**.** A CT scan creates a three-dimensional

picture of the inside of the body with an x-ray machine. A computer then combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. A CT scan can also be used to measure the tumor?s size. Sometimes, a contrast medium is given before the scan to provide better detail on the image. This dye can be injected into a patient?s vein or given as a pill to swallow. For a brain stem glioma, this test generally does not provide enough information to make a definite diagnosis, and an MRI is still needed.

- **Biopsy** [5]**.** A biopsy is the removal of a small amount of tissue for examination under a microscope. A biopsy is generally not done for the more common, diffuse type of brain stem tumor. However, for a focal tumor, it is often used to find out the type of tumor. If possible, a doctor called a neurosurgeon will remove a small piece of tissue from the brain. A neurosurgeon specializes in treating a CNS tumor using surgery. A pathologist then analyzes the sample(s). A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

After diagnostic tests are done, your child?s doctor will review all of the results with you. If the diagnosis is brain stem glioma, these results also help the doctor describe the tumor; this is called staging and grading.

Thenext section in this guide is Stages and Grades[6], and it explains the system doctors use to describe the extent of the disease. Or, use the menu on the side of your screen to choose another section to continue reading this guide.

Links:
[1] http://www.cancer.net/cancer-types/brain-stem-glioma-childhood/diagnosis
[2] http://www.cancer.net/about-us
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