# Pituitary Gland Tumor - Diagnosis

**This section has been reviewed and approved by the Cancer.Net Editorial Board [1], September / 2013**

Diagnosis

**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 tumor and find out if it has metastasized (spread). Some tests may also determine which treatments may be the most effective. For most tumors, a biopsy is the only way to make a definitive diagnosis. For a pituitary tumor, the biopsy is done as part of surgery to remove the tumor, and a biopsy alone is not usually recommended. The doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether the tumor has spread, but very few pituitary tumors ever spread. When they do, they are called pituitary carcinoma instead of the much more common, noncancerous pituitary adenoma. Your 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 pituitary gland tumor. This list describes options for diagnosing a pituitary gland tumor, and not all tests listed will be used for every person.

**Neurological examination.** An evaluation of the patient?s central nervous system may include testing a person?s reflexes, motor and sensory skills, balance and coordination, and mental status.

**Laboratory tests** [2]**.** A blood test may be recommended so the doctor can measure the amounts of certain hormones in the blood. If Cushing's disease (see Symptoms and Signs [3]) is suspected, samples of saliva may be collected as well as one or more 24-hour urine samples (in which all urine produced in a 24-hour period is saved and sent for analysis of cortisol levels). These tests may need to be repeated several times so the doctor can understand how hormones are produced over time, or to confirm that hormone levels are consistently abnormal. Sometimes a person may be given a drug or hormone before the blood measurements are done; this is called provocative testing.

**Magnetic resonance imaging (MRI)** [4]**.** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A contrast medium (a special dye) may be injected into a patient?s vein or given orally (by mouth) to create a clearer picture. MRI is better than a computed tomography scan (see below) to diagnose most pituitary gland tumors, and it is now the standard method.

**Computed tomography (CT or CAT) scan** [5]**.** 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 injected into a patient?s vein or given orally to provide better detail. A CT scan is usually used only for patients who have a pacemaker or an aneurysm clip, which may prevent them from having an MRI (see above).

**Visual field exam**. A large pituitary gland tumor may press on the optic nerves, which are located above the pituitary gland. In this test, the patient is asked to find points of light on a screen, using each eye separately. The most common visual field problem caused by a pituitary gland tumor is loss of the ability to see objects along the outside of the person?s field of vision. Because other diseases can also cause vision loss, it is important for the doctor to consider all possible causes carefully before coming to a conclusion about the reason for the vision problem.

**Biopsy** [6]**.** A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that a tumor is present, but only a biopsy can make a definite diagnosis. The sample removed during the biopsy is analyzed by a pathologist (a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease). A pituitary gland tumor should be checked by the pathologist for production of each of the hormones mentioned in the Overview [7] section (except for lipotropin and melanocyte stimulating hormone) to correctly classify the tumor. As mentioned above, the biopsy is done as part of the surgery to remove the pituitary tumor.

**Lumbar puncture (spinal tap).** A lumbar puncture is a procedure in which a doctor uses a needle to take a sample of cerebrospinal fluid (CSF) to look for tumor cells, blood, or tumor markers (substances found in higher than normal amounts in the blood, urine, or body tissues of people with certain kinds of tumors). CSF is the fluid that flows around the brain and the spinal cord. Doctors generally give an anesthetic to numb the lower back

before the procedure. However, this test is rarely needed to help diagnose a pituitary tumor.

After these diagnostic tests are done, your doctor will review all of the results with you. If the diagnosis is a tumor, these results also help the doctor describe the tumor; this is called staging.

*The next section helps explain the different stages for this type of cancer. Use the menu on the side of your screen to select Stages, or you can select another section, to continue reading this guide.*

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**Links:**
[1] http://www.cancer.net/about-us
[2] http://www.cancer.net/node/24716
[3] http://www.cancer.net/node/19539
[4] http://www.cancer.net/node/24578
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