

## **Endocrine Tumor - Diagnosis** [1]

This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 03/2014

**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, find out if it is cancerous, and if so, determine whether 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 types of tumors, a biopsy is the only way to make a definitive diagnosis of cancer. If a biopsy is not possible, the doctor may suggest other tests that will help make a diagnosis. Imaging tests may be used to find out whether a cancerous tumor has spread. This list describes options for diagnosing this type of tumor, and not all tests listed will be used for every person. 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 an endocrine tumor:

**Biopsy** [3]. A biopsy is the removal of a small amount of tissue for examination under a microscope. Other tests can suggest that cancer is present, but only a biopsy can make a definite diagnosis. The sample removed during the biopsy is examined by a pathologist. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

There are many types of biopsies. The type of biopsy performed will depend on the location of the tumor. Two of the more common types of biopsies used in the diagnosis of an endocrine tumor include fine needle aspiration and surgical biopsy.

- Fine needle aspiration is usually performed in a doctor's office or clinic. A local anesthetic (medication to block the awareness of pain) may be injected into the skin near the tumor beforehand to numb the area. The doctor then inserts a thin needle into the tumor and

removes cells and some fluid. The procedure may be repeated two or three times to get samples from different parts of the tumor. The report done by the pathologist can be positive (meaning there are cancerous cells), negative (meaning there are no cancerous cells), or undetermined (unclear).

- If the needle aspiration biopsy is undetermined, the doctor may suggest a biopsy in which the tumor and possibly other tissue in the area will be removed by surgery. This procedure is most often done under general anesthesia and on an outpatient basis (you will not need to stay overnight in the hospital).

**Molecular testing of the tumor.** Your doctor may recommend running laboratory tests on a tumor sample to identify specific genes, proteins, and other factors unique to the tumor. Results of these tests will help decide whether your treatment options include a type of treatment called targeted therapy (see [Treatment Options](#) [4]).

**Laboratory tests.** The doctor may need to collect and test samples of the patient's blood, urine, and stool to check for abnormal levels of hormones, glucose, and other substances.

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

## **Imaging tests**

**Bone scan [5].** A bone scan uses a radioactive tracer to look at the inside of the bones. The tracer is injected into a patient's vein. It collects in areas of the bone and is detected by a special camera. Healthy bone appears gray to the camera, and areas of injury, such as those caused by cancer, appear dark.

**Computed tomography (CT or CAT) scan [6].** 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. Sometimes, a special dye called 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.

**Endoscopy [7].** This test allows the doctor to see inside the body with a thin, lighted, flexible tube called an endoscope. The person may be sedated as the tube is inserted through the mouth, down the esophagus, and into the stomach and small bowel. Sedation is the use of medication to become more relaxed, calm, or sleepy and block the awareness of pain. A [colonoscopy](#) [8] is a type of endoscope that is inserted through the anus into the colon. It can be used to diagnose a tumor in the lower section of the digestive system.

**X-ray.** An x-ray is a way to create a picture of the structures inside of the body using a small amount of radiation.

**Magnetic resonance imaging (MRI) [9].** An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. MRI can also be used to measure the tumor's size. 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.

**Positron emission tomography (PET scan) [10].** A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive sugar substance is injected into a patient's body. This sugar substance is taken up by cells that use the most energy. Because a tumor tends to use energy actively, it absorbs more of the radioactive substance. However, because some endocrine tumors grow very slowly, it means they use less energy; this means a PET scan may not be as helpful as other tests in the diagnosis.

**Radionuclide scanning (OctreoScan).** A small amount of a radioactive hormone-like substance is injected into a vein. A special camera is then used to show where the radioactivity accumulates. This procedure is useful for finding where an endocrine tumor has spread, especially if it has spread to the liver. The test takes place over more than one day.

After diagnostic tests are done, your doctor will review all of the results with you. If the diagnosis is an endocrine tumor, these results also help the doctor describe the tumor; this is called staging [11].

*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/cancer-types/endocrine-tumor/diagnosis>

[2] <http://www.cancer.net/about-us>

[3] <http://www.cancer.net/node/24406>

[4] <http://www.cancer.net/node/18749>

[5] <http://www.cancer.net/node/24410>

[6] <http://www.cancer.net/node/24486>

[7] <http://www.cancer.net/node/24511>

[8] <http://www.cancer.net/node/24481>

[9] <http://www.cancer.net/node/24578>

[10] <http://www.cancer.net/node/24648>

[11] <http://www.cancer.net/node/18748>