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## **[Islet Cell Tumor - Diagnosis](#) [1]**

**This section has been reviewed and approved by the [Cancer.Net Editorial Board](#) [2], 06/2015**

**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 tumor and find out if it is cancerous. Some tests may also determine which treatments may be the most effective. If the tumor is cancerous, imaging tests may be used to find out whether the cancer has spread to another part of the body, called metastasis.

This list describes options for diagnosing an islet cell tumor, but 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 islet cell tumor:

- **Laboratory tests.** The doctor may take samples of blood, urine, and/or stool to check for abnormal levels of hormones, glucose, and other substances.
- **Biopsy** [3]. 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. A pathologist then analyzes the sample(s) removed during the biopsy. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.
- **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. For more information, see the [Treatment Options](#) [4] section.
- **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 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 liquid to swallow.
- **Ultrasound** [6]. An ultrasound uses sound waves to create a picture of the internal organs. Tumors generate different echoes of the sound waves than healthy tissue, so when the waves bounce back to a computer and are changed into images, the doctor can find masses inside the body.

There are different types of ultrasounds. During a standard transabdominal ultrasound, the probe is placed on the outside of the abdomen. However, these images are often not clear enough to diagnose small changes in the pancreas and other organs.

During an endoscopic ultrasound, the probe is connected to the end of a thin, flexible, lighted tube called an endoscope and carefully slid down the esophagus into the stomach and duodenum, the top part of the small intestine. This type of ultrasound gives a clearer picture of the pancreas and other organs. Learn more about [endoscopic techniques](#) [7].

- **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. Sometimes, the patient will be asked to swallow barium, which coats the mouth and throat, to provide better detail on the x-ray. This is called a barium swallow.

- **[Magnetic resonance imaging \(MRI\)](#)** [8]. 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 liquid to swallow. Neuroendocrine tumors of the pancreas are sometimes best shown using an MRI, especially if they have spread to the liver.
- **Octreotide scan.** An octreotide scan is a special type of nuclear medicine scan used to find an islet cell tumor and where it may have spread. A person is given a small amount of the hormone octreotide that has a radioactive substance attached. Because islet cell tumors have receptors for a similar hormone on their surface, the octreotide attaches to the tumor and causes it to show up on pictures taken by a gamma camera. This test takes place over several days. For more information about octreotide, see the [Treatment Options](#) [4] section.
- **Other imaging tests.** Other newer nuclear medicine scans that use different radioactive isotopes (for example, DOTA-TATE, which uses Gallium-68) are being evaluated in clinical trials as alternative ways to diagnose islet cell tumors.

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

*The [next section in this guide is Stages and Grades](#) [9], and it explains the system doctors use to describe a cancerous tumor. Or, use the menu on the side of your screen to choose another section to continue reading this guide.*

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## Links

[1] <http://www.cancer.net/cancer-types/islet-cell-tumor/diagnosis>

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

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

[4] <http://www.cancer.net/node/18948>

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

[6] <http://www.cancer.net/node/24714>

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

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

[9] <http://www.cancer.net/node/18947>