

Liver Cancer - 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 cancer 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. Your doctor may consider these factors when choosing a diagnostic test:

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

The following tests may be used to diagnose HCC. This list describes options for diagnosing this type of cancer, but not all tests listed will be used for every person.

Physical examination. If a person has symptoms of HCC, the doctor will feel the abdomen to check the liver, spleen, and other nearby organs for lumps, swelling, or other changes. The doctor will also look for an abnormal buildup of fluid in the abdomen and for signs of jaundice, which include yellowing of the skin and whites of the eyes.

Blood tests. At the same time as the physical examination, the doctor will most likely do a blood test to look for a substance called alpha-fetoprotein (AFP). In the United States, AFP is found in elevated levels in the blood of about 50% to 70% of people who have HCC. The doctor will also test the patient's blood to see if he or she has hepatitis B or C. Other blood tests can show how well the liver is working.

In addition, other tests are commonly needed to diagnose HCC and to find where the tumor is located in the liver and if it has spread to other parts of the body. After the physical examination and blood tests, the doctor may recommend one or more of the following tests:

Ultrasound [3]. An ultrasound uses sound waves to create a picture of the internal organs. The sound waves bounce off the liver, other organs, and tumors. Each creates a different picture on a computer monitor.

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. 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. Often, HCC can be diagnosed based on features specific to the cancer that are seen on a CT scan. This helps patients avoid a liver biopsy (see below). A CT scan can also be used to measure the tumor's size.

Magnetic resonance imaging (MRI) [5]. 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.

Angiogram. An angiogram is an x-ray picture of the blood vessels. A dye is injected into the bloodstream so the blood vessels of the liver show up on an x-ray.

Laparoscopy [6]. This test allows the doctor to see inside the body with a thin, lighted, flexible tube called a laparoscope. The person is sedated as the tube is inserted through a small incision in the abdomen. Local anesthetic to numb the area is also used.

Biopsy [7]. A biopsy is the removal of a small amount of tissue for examination under a microscope. The sample removed during the biopsy is analyzed by a pathologist. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

The type of biopsy performed will depend on the location of the cancer. The biopsy can be done during a laparoscopy, a fine needle aspiration, or a core biopsy. During a fine needle aspiration, cells are removed using a thin needle inserted into the tumor. A core biopsy uses a thicker needle. Either procedure is done by a radiologist who uses an ultrasound to direct him or her to the particular part of the liver with the tumor. The actual biopsy procedure usually lasts for less than one minute. It is typically not painful, and few people have complications from the procedure.

Before the biopsy, your doctor will test your blood to make sure it clots normally to decrease the risk of bleeding after the procedure. Sometimes your doctor might perform a laparoscopy and biopsy to look at the non-cancerous part of the liver to find out if you have cirrhosis, which will help determine the best treatment options.

When the AFP blood test strongly indicates HCC, and other test results are typical of HCC, a biopsy may not be needed. Also, most surgeons will recommend that a biopsy be done as part of surgery if all or part of the liver is being removed, rather than as a separate procedure beforehand.

It is also important to note that, with newer imaging methods, very small masses are easier to

find. However, it is not always possible to identify what a very small mass is and if it is cancer. In these instances, particularly when the mass is one centimeter or less in size, the doctor may recommend a "watch and wait" approach, also called active surveillance or watchful waiting. This means that the scans are repeated in three to six months. If the later scan shows that the size hasn't changed, the surveillance approach is continued. If it grows, however, the doctor will then do a biopsy.

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 the [Treatment Options](#) [8] section).

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

Links:

- [1] <http://www.cancer.net/cancer-types/liver-cancer/diagnosis>
- [2] <http://www.cancer.net/about-us>
- [3] <http://www.cancer.net/node/24714>
- [4] <http://www.cancer.net/node/24486>
- [5] <http://www.cancer.net/node/24578>
- [6] <http://www.cancer.net/node/24511>
- [7] <http://www.cancer.net/node/24406>
- [8] <http://www.cancer.net/node/19141>