

## What is Hepatocellular Carcinoma?

Hepatocellular Carcinoma (HCC) is the fourth most common cancer in the world, and the second most common cause of cancer deaths worldwide. It is also known as hepatoma, primary liver cell carcinoma or primary liver cancer. HCC is cancer that arises from hepatocytes, the major cell type of the liver.

## What causes HCC?

The most common risk factors for HCC are hepatitis B, hepatitis C, cirrhosis, nonalcoholic fatty liver disease (NAFLD), nonalcoholic steatohepatitis (NASH) or exposure to aflatoxins.

## What are the symptoms of HCC?

Symptoms include abdominal pain or tenderness (particularly in the right-upper part of the abdomen), an enlarged abdomen, right shoulder pain, bloating, decreased appetite, nausea, unexplained weight loss and unexplained fevers. Jaundice and swelling of the abdomen/legs can occur in more advanced liver cancer. Many patients with HCC do not develop symptoms until the advanced stages of the disease.

## How is HCC diagnosed?

- A **physical examination** may show an enlarged, tender liver.
- **Imaging tests** such as ultrasound (US), computed tomography (CT), or magnetic resonance imaging (MRI) may reveal a mass in the liver.
- **Blood tests of liver enzymes or function** may show abnormal variations, or **tumor markers** such as serum alpha-fetoprotein (AFP) may be elevated.
- A **liver biopsy** may reveal cancer after a tissue sample is removed during surgery and examined under a microscope by a pathologist.



[www.bluefaery.org](http://www.bluefaery.org)

## Blue Faery: The Adrienne Wilson Liver Cancer Association

is a nonprofit organization whose mission is to prevent, treat and cure primary liver cancer, specifically Hepatocellular Carcinoma (HCC), through research, education and advocacy.

Sources: American Association for the Study of Liver Diseases, American Joint Committee on Cancer, Centers for Disease Control, Hepatitis B Foundation, Mayo Clinic, National Cancer Institute and World Health Organization.

**This brochure is not intended as a substitute for professional healthcare.**



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# WHAT YOU NEED TO KNOW ABOUT LIVER CANCER

(Hepatocellular Carcinoma)



**Blue Faery**  
The Adrienne Wilson Liver Cancer Association

## What are the treatment options for HCC?

The treatment of HCC often requires the expertise of multiple medical professionals. Your care may consist of a multidisciplinary team that includes an oncologist, gastroenterologist, hepatologist, interventional radiologist, radiation oncologist, surgical oncologist and transplant surgeon.

**Surgery** removes the cancer cells during an operation.

- **Liver transplant:** In this surgery, a donor provides a new or partial liver to replace the diseased liver in another person. This complicated procedure is usually recommended for Very Early Stage patients. Sometimes other treatments will be administered pretransplantation in order to shrink tumors. It is possible for tumors to regrow in the new liver.

- **Resection:** This surgery involves the removal of damaged tissue or entire portions of the liver. Many patients are not candidates for resection. Similar to liver transplantation, other treatments may be administered before resection to shrink tumors.

**Ablation** destroys cancer cells with minimally invasive, local and variable techniques. Ablation treatments are often used when surgery is not an option and are most beneficial in patients with smaller tumors. Radiofrequency Ablation (RFA), percutaneous ethanol injection (PEI), cryoablation, microwave therapy and irreversible electroporation therapy are different types of ablation treatments.

**Embolization** damages cancer cells by delivering toxic agents through the hepatic artery to the cancerous area. The goal is to block the tumor's blood supply and thereby stop its growth.\*

- **Transarterial Chemoembolization (TACE):** This treatment administers chemotherapy drugs into the liver tumor through the hepatic artery. This procedure is usually beneficial in patients who have tumors limited to the liver. TACE can be used to decrease the size of tumors to make surgical options possible.

- **Selective Internal Radiation Therapy (SIRT):** This treatment consists of microscopic glass beads filled with radioactive elements. Injected through the hepatic artery, the beads deliver radiation directly to the liver tumors. SIRT is also known as SIR-Spheres®, TheraSphere®, Yttrium 90, Y90 and brachytherapy.

**Chemotherapy** destroys cancer cells and stops the production of new cancer cells by using a variety of chemicals. Chemotherapy may be administered by mouth or through the vein; the drug(s) interrupts the life cycle of cells by stopping them from growing/reproducing. Sorafenib was the first FDA-approved chemotherapy for HCC, but other drugs are being evaluated in clinical trials. Patients taking chemotherapy may experience side effects.\*

\*Indicates a palliative treatment, which is designed to provide relief but is not a cure.

## What are clinical trials?

Clinical trials are studies conducted on volunteers using investigational treatments or methods. The decision to enroll in a trial should be based on concrete information and eligibility depends on many factors. For more information about HCC clinical trials in your area, visit [www.clinicaltrials.gov](http://www.clinicaltrials.gov).

- Discuss the advantages, disadvantages and side effects of treatment options with your doctor.
- Ask your doctor about the possibility of using experimental therapies and eligibility to participate in clinical trials.
- Consider seeking a second opinion if your health insurance allows you the option to do so.
- Visit [www.bluefaery.org](http://www.bluefaery.org) for valuable HCC information and patient resources.
- Contact Blue Faery by email at [info@bluefaery.org](mailto:info@bluefaery.org) or by phone at **818-636-5624**.

## Liver Cancer Staging and Treatment

**Very Early Stage (0):** Single tumor less than 2 cm with preserved liver function.

**Early Stage (A):** Single tumor less than 5 cm that does not invade blood vessels or up to 3 tumors, all being less than 3 cm.

**Intermediate Stage (B):** Multiple tumors that do not invade blood vessels or extend outside of the liver with preserved liver function.

**Advanced Stage (C):** Tumor(s) that invade the blood vessels or a nearby organ (other than the gallbladder) with or without preserved liver function.

**Terminal Stage (D):** The cancer has spread to other parts of the body (e.g., lungs, bones). Tumors can be any size or number, and nearby lymph nodes may or may not be involved. Liver function is compromised.

Note: While there are multiple staging systems for HCC, the one most commonly used is the Barcelona Clinic Liver Cancer (BCLC) staging and treatment system outlined here.

