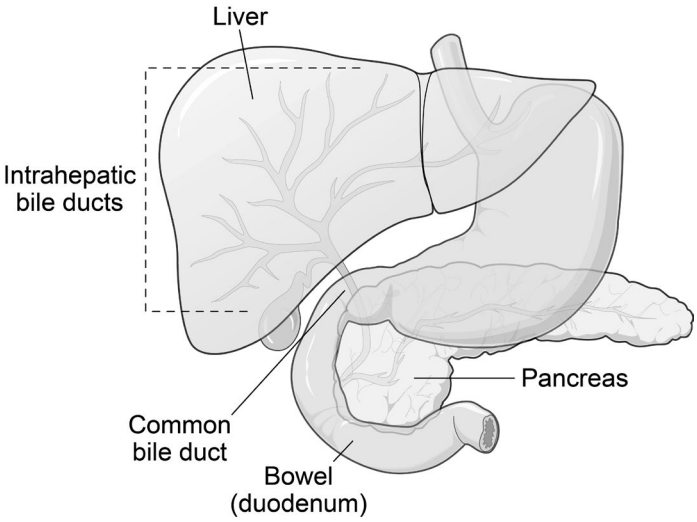
Liver Cancer

Many types of cancer can form in the liver. Cancer that begins in the cells of your liver is known as primary liver cancer. The most common form is hepatocellular carcinoma (HCC). Cancer that begins in another area of the body and then spreads to the liver, is known as metastatic cancer or secondary cancer.



The liver is the largest organ inside the body. The liver has many functions, including:

- Collecting and filtering blood
- Helping with blood clotting
- Helping to break down food
- Removing toxic waste from the body
- Helping store energy and make proteins

You cannot live without a liver.

Causes and Symptoms

Risk Factors

- **Cirrhosis:** Scarring of the liver.
- **Alcohol use:** Heavy drinking can cause cirrhosis of the liver.
- **Metabolic-associated steatotic liver disease (MASLD)** [formerly known as non-alcoholic fatty liver disease (NAFLD)]: Buildup of fat in the liver not caused by excessive alcohol use. MASLD can be caused by diet, genetics, diabetes, pregnancy, and obesity.
- **Viral hepatitis:** Hepatitis viruses can infect the liver. The most common types are hepatitis B and hepatitis C.
- **Gender:** Men are more likely than women to get liver cancer.
- **Chemical exposure:** Being exposed to certain chemicals may increase risk.
- **Race and ethnicity:** Asian Americans and Pacific Islanders have higher rates of liver cancer.
- **Other:** Tobacco use, obesity, Type 2 diabetes, and other lifestyle and inherited factors.

Symptoms

- Pain in the top right belly area, near the right shoulder blade or the back
- Unexplained weight loss
- Weakness or fatigue
- Decrease in appetite
- Nausea and vomiting
- Yellowing of the skin and eyes (jaundice)
- Swelling in the belly (ascites) or bloating
- Itching

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Bile Duct Cancer Symptoms

- Lighter or chalky colored stool
- Darker, cola-colored urine

Curing Cancer

The chances of your cancer being cured depend on:

1. Stage of cancer when it is found
2. Whether the cancer has spread
3. Whether the cancer is a new diagnosis or has come back

Diagnosis and Staging

Diagnosing Liver Cancer

- **History and physical exam:** Your care team will review your symptoms, health habits, past illnesses and treatments.
- **Blood tests:** Blood tests can check liver function and check for hepatitis. You may also have your alpha-fetoprotein (**AFP**) level checked as levels may be high with liver cancer.
- **Ultrasound:** This test uses sound waves to create a picture of the liver.
- **CT scan:** This test takes pictures of the inside of the body after drinking or injecting special dye.
- **MRI:** This uses a magnet, radio waves and a computer to take pictures of the inside of the body.
- **Angiogram:** This test takes an x-ray picture of the blood vessel in the liver after injecting dye into the bloodstream.
- **Laparoscopy:** This is a surgery done with a scope that lets the surgeon check the belly for signs of cancer.
- **Biopsy:** This test checks tissue under a microscope to look for cancer. Biopsies may be done during surgery or a procedure with the help of a CT scan or ultrasound.

Staging

Staging describes where the cancer is located and whether it has spread to other parts of the body. Knowing the stage helps to decide on treatment options. It can help predict outcome.

TNM System

One tool doctors use to describe the stage is the **TNM** system.

- **Tumor (T)**: How large is the tumor? Where is it located?
- **Node (N)**: Has the tumor spread to lymph nodes?
- **Metastasis (M)**: Has the cancer spread to other parts of the body?

Other Staging Terms

- **Localized resectable**: The cancer is only in one place in the liver. Other parts of the liver are healthy. Resectable means it can be removed with surgery.
- **Localized unresectable**: The cancer is found in only one part of the liver. But it cannot be removed by surgery.
- **Advanced**: Cancer has spread throughout the liver and/or to other parts of the body.
- **Recurrent**: This is a cancer that has come back after treatment.

Treatment

Treatment options depend on:

- If the cancer is only in the liver
- Where it started or spread
- Overall health
- Future damage to nonaffected area

Surgery
Surgery involves removing the tumor and tissue around the tumor.

- **Hepatectomy:** This is when a part of the liver is removed. This is done when the cancer is only in one part of the liver and the liver works well.
- **Liver transplant:** This is done only when the cancer has not spread out of the liver. A donor who meets very specific criteria needs to be found.

Thermal Ablation
This treatment uses heat from radiofrequency ablation (**RFA**) and microwave therapy to kill cancer cells. It may be given through the skin. It can also be done through laparoscopy or during a surgery while you are asleep.

Chemoembolization
This treatment involves injecting medicine into the artery that enters the liver (hepatic artery). The flow of the blood through this artery is blocked for a short time. This allows the medicine to stay in the tumor longer. This also decreases the blood supply to the tumor.

Histotripsy
This non-invasive treatment uses a focused ultrasound waves to destroy cancer cells. The focused ultrasound waves create bubbles to break apart the cells.

Radiation Therapy
This treatment uses high energy x-rays or other types of radiation to kill or slow the growth of cancer cells. Radiation treats a very specific area. This is called **regional therapy**.

Targeted Therapy
This treatment targets a specific function of the cancer cell. This treatment most often comes in pill form. In liver cancer, this treatment stops new blood vessels from forming. This blocks the growth and spread of cancer cells.

Chemotherapy
This treatment uses medicine to kill cancer cells or stop them from dividing. Chemotherapy can be injected through a vein using an IV or taken by mouth in the pill form. The medicine enters the bloodstream and can kill each cancer cell throughout the body. This is called **systemic therapy**.

Clinical Trials
You may have the chance to take part in a clinical trial. Clinical trials are controlled research studies. They are voluntary. Clinical trials help to find out if new cancer treatments are safe and effective. They may find better treatments for cancer than the standard treatments.

Follow-up Tests
During your treatments you will need blood tests and scans. These tests help us see how well the treatment is working. We use the results to make decisions to keep going, stop, or change treatments.

You will also have blood tests and scans after you have finished your treatments. These tests can show if your condition has changed, or the cancer has come back.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 4/2025 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#7755