

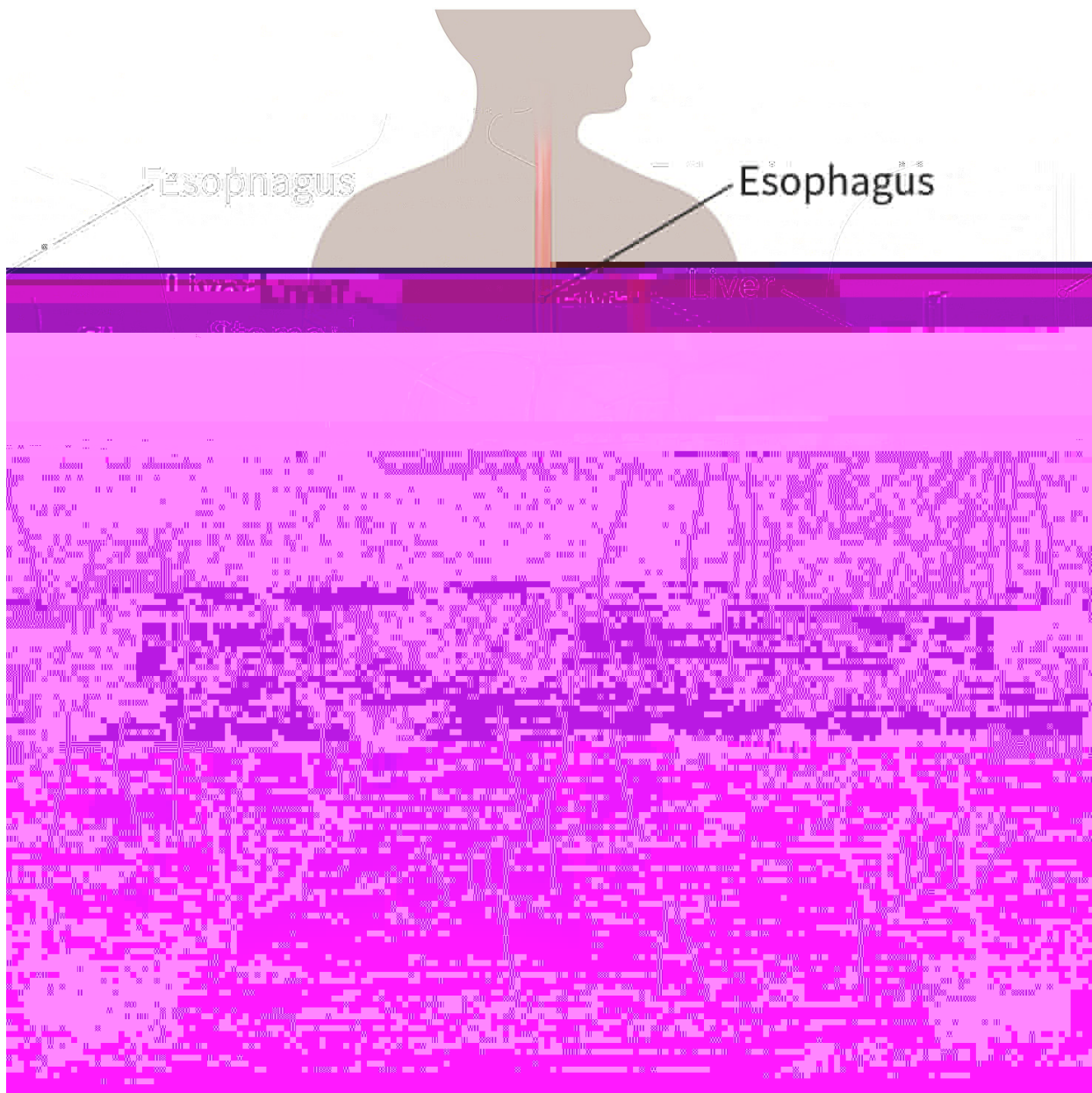


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What Is Bile Duct Cancer?

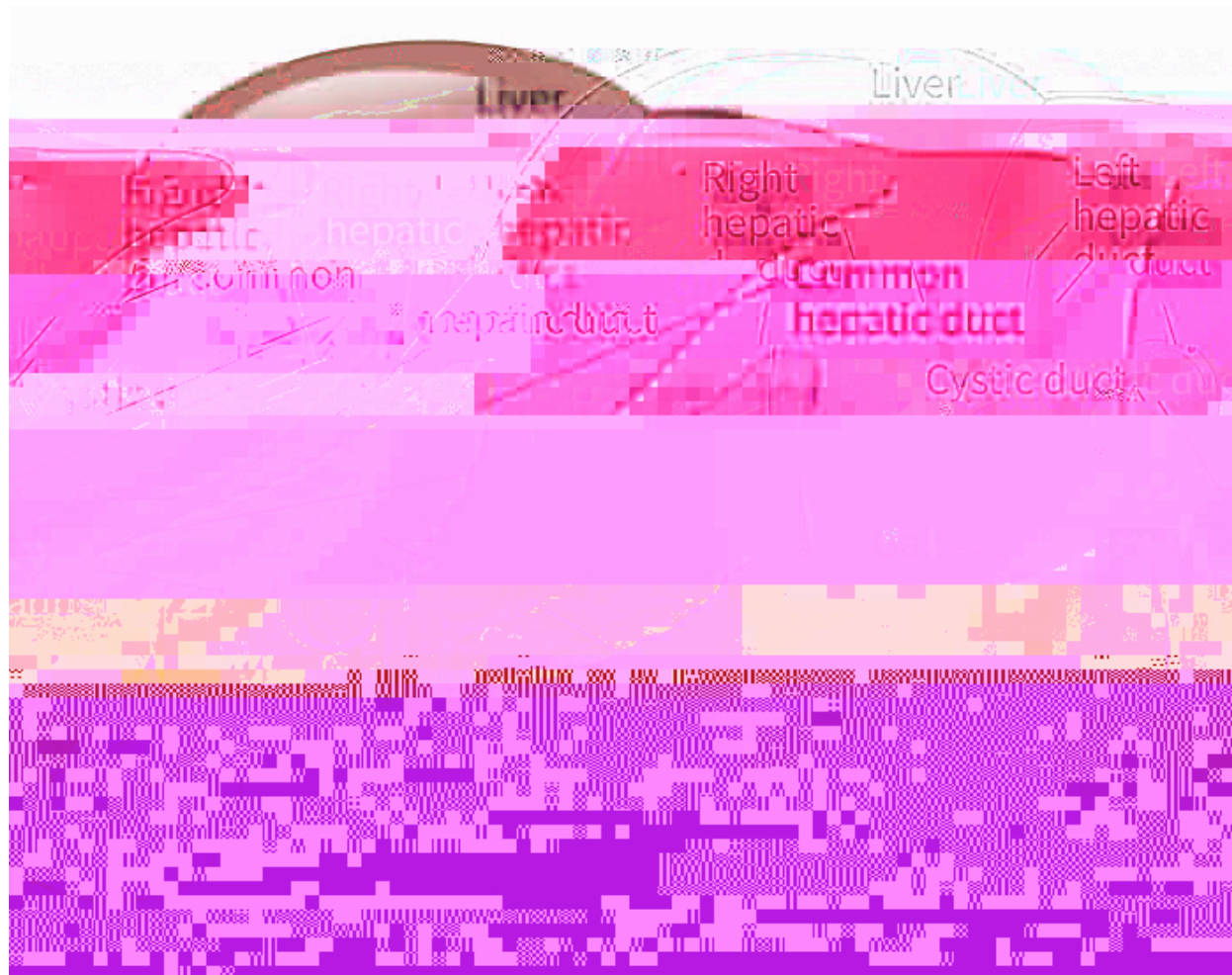
- [Types of bile duct cancer by cell type](#)
- [Benign bile duct tumors](#)
- [Other cancers in the liver](#)

About the bile ducts



The bile ducts are a series of thin tubes that go from the liver to the small intestine. Their main job is to allow a fluid called **bile** to go from the liver and gallbladder into the

small intestine, where it helps digest the fats in food.



Different parts of the bile duct system have different names. In the liver it begins as many tiny tubes (called **ductules**). The ductules come together to form small tubes called **ducts**. These merge into larger ducts and then into the left and right hepatic ducts. All of these ducts within the liver are called **intrahepatic bile ducts**.

The left and right hepatic ducts exit the liver and join to form the common hepatic duct in an area called the **hilum**. Lower down, the gallbladder (a small organ that stores bile) is joined to the common hepatic duct by a small duct called the **cystic duct**. This combined duct is called the **common bile duct**.

The common bile duct passes through part of the pancreas before it joins with the pancreatic duct and empties into the first part of the small intestine (the **duodenum**) at the ampulla of Vater.

[What Is Cancer?](#) ¹

Cancer starts when cells in the body begin to grow out of control. Cells in nearly any part of the body can become cancer cells. Learn more here.

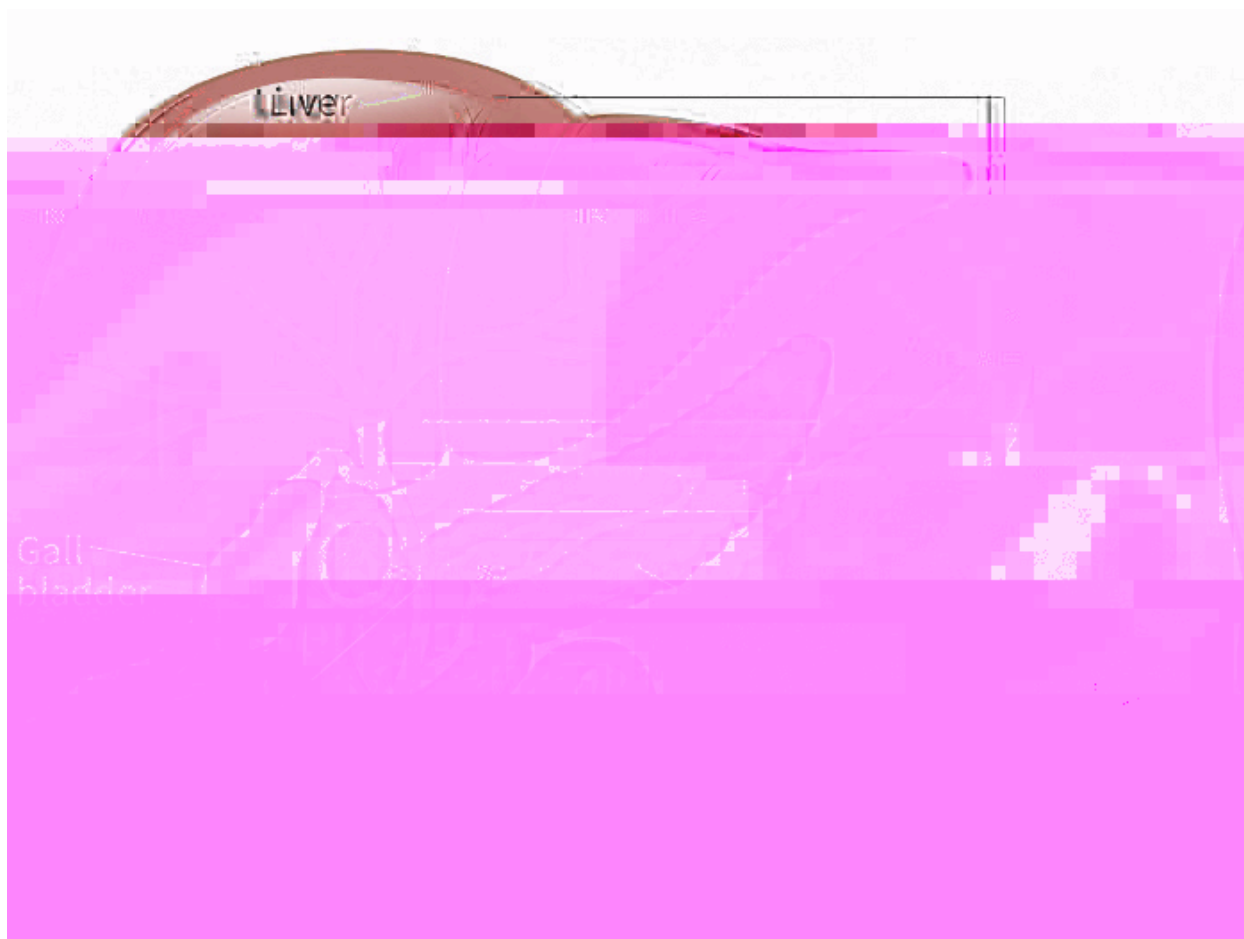
[Anatomy Gallery: Digestive System](#) ²

Explore our 3D interactive tour of the digestive system.

Types of bile duct cancers by location

Bile duct cancer (cholangiocarcinoma) can start in any part of the bile duct system. Based on where the cancers start(see the picture below), they're grouped into 3 types:

- Intrahepatic bile duct cancers
- Perihilar (also called *hilar*) bile duct cancers
- Distal bile duct cancers



Intrahepatic bile duct cancers

These cancers start in the smaller bile duct branches inside the liver. Sometimes they're confused with cancers that start in the liver cells ([hepatocellular carcinomas](#)³), and they are often treated the same way.

Perihilar (also called hilar) bile duct cancers

These cancers start at the hilum, where the left and right hepatic ducts have joined and are just leaving the liver. These are also called Klatskin tumors. These cancers are grouped with distal bile duct cancers as **extrahepatic bile duct cancers**.

Distal bile duct cancers

These cancers are found farther down the bile duct, closer to the small intestine. Like perihilar cancers, these are **extrahepatic bile duct cancers** because they start outside of the liver.

Cancers that start in different parts of the bile ducts can cause different [symptoms](#)⁴.

Types of bile duct cancer by cell type

Bile duct cancers can also be divided into types based on how the cancer cells look under the microscope.

Nearly all bile duct cancers are **cholangiocarcinomas**.

The most common type of cancer that starts in the liver – much more common than cholangiocarcinoma – is [hepatocellular carcinoma](#)⁵. This type of cancer starts in the main cells that make up the liver.

Cancers that start in other organs, such as the colon or rectum, can sometimes spread (metastasize) to the liver. These **metastatic cancers** are not true liver cancers. For example, colorectal cancer that has spread to the liver is still colorectal cancer, not liver cancer. The treatment and outlook for cancer that metastasizes to the liver is not the same as for a cancer that starts in the liver. For this reason, it's important to know whether a tumor in the liver started in bile ducts (cholangiocarcinoma), the liver tissue itself (hepatocellular carcinoma), or another organ and has spread to the liver.

Hyperlinks

1. www.cancer.org/cancer/understanding-cancer/what-is-cancer.html
2. www.cancer.org/cancer/understanding-cancer/anatomy-gallery/digestive-system.html
3. www.cancer.org/cancer/types/liver-cancer.html
4. www.cancer.org/cancer/types/bile-duct-cancer/detection-diagnosis-staging/signs-symptoms.html
5. www.cancer.org/cancer/types/liver-cancer.html

References

Abou-Alfa GK, Jarnagin W, Lowery M, et al. Liver and bile duct cancer. In: Neiderhuber JE, Armitage JO, Doroshow JH, Kastan MB, Tepper JE, eds. *Abeloff's Clinical Oncology*. 5th ed. Philadelphia, PA. Elsevier; 2014:1373-1395.

National Cancer Institute. Bile Duct Cancer (Cholangiocarcinoma) Symptoms, Tests, Prognosis, and Stages (PDQ®)—Patient Version. March 22, 2018. Accessed at www.cancer.gov/types/liver/patient/about-bile-duct-cancer-pdq on June 18, 2018.

Patel T, Borad MJ. Carcinoma of the biliary tree. In: DeVita VT, Lawrence TS, Rosenberg SA, eds. *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology*. 10th ed. Philadelphia, PA. Lippincott Williams & Wilkins; 2015:715-735.

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Key Statistics About Bile Duct Cancer

Bile duct cancer (cholangiocarcinoma) is rare in the United States, but more common in Southeast Asia. It occurs most often in older people.



and promising treatments discussed here tend to only be available in clinical trials.

- [Early Detection](#)
- [Treatment](#)

Early Detection

Most bile duct cancers are diagnosed when it's already progressed to late stage, when it's unresectable and incurable. But researchers are studying ways to screen for bile duct cancer so that it can be diagnosed at an earlier and curable stage. Tests currently being studied check a person's blood or bile sample to look for bile duct cancer [biomarkers](#)² or [circulating tumor DNA](#)³ that might mean cancer is present.

Treatment

Studies are also being done to find better ways of treating bile duct cancer.

Surgery

Doctors are constantly improving the [surgical techniques](#)⁴ used to treat bile duct cancers and looking for ways to make surgery possible for more people.

For instance, sometimes the tumor is resectable (removable with surgery), but the person (or their liver) might not be healthy enough for the surgery. Studies looking at options for minimally-invasive surgery are ongoing.

Better ways to use **laparoscopic surgery** are also being tested and compared to open surgery. Adjuvant and neoadjuvant treatments (treatments used before and after surgery) are also active areas of research interest. Doctors are looking for ways to combine other treatments with surgery to improve outcomes.

Radiation therapy

Researchers are looking at better ways to use [radiation therapy](#)⁵. One example is using a different type of radiation called **proton beam radiation therapy**. Traditional radiation therapy uses photon or electron beams that release energy all along their path and can damage healthy tissues as well as cancer cells. Proton beams, however, release their energy at their destination (the tumor). This means that proton beam radiation may be able to deliver more radiation to the tumor while reducing side effects on normal tissues.

Other ways to use radiation therapy are also being studied. For example, doctors are looking at whether radioactive stents placed inside bile ducts might help shrink tumors and keep the ducts open longer than standard stents.

Chemotherapy

In general, the effects of chemo against bile duct cancer have been found to be limited, but new drugs and new combinations of drugs are being tested. Studies are also looking for better ways to combine chemo with other treatments, like surgery, radiation, and liver transplant.

There's a lot of research interest in combining [chemotherapy](#)⁶ and [targeted therapy](#)⁷.

Targeted therapy

Many drugs that target a specific change (mutation) in cancer cells have been FDA approved and are in use today. These include drugs that target mutations, including *NTRK*, *RET*, *BRAF*, *FGFR2*, *IDH1*, *RET*, *KRAS*, and *HER2*. Studies that look at other targetable mutations are ongoing. Another area of active research is looking at how combining targeted therapy with other forms of therapy, such as chemotherapy, can better help kill bile duct cancer cells.. Different drug combinations are being tested for use in treating bile duct cancer in clinical trials.

Hyperlinks

1. www.cancer.org/cancer/managing-cancer/making-treatment-decisions/clinical-trials.html
2. www.cancer.org/cancer/diagnosis-staging/tests/biomarker-tests.html
3. www.cancer.org/cancer/diagnosis-staging/tests/biopsy-and-cytology-tests/biopsy-types.html
4. www.cancer.org/cancer/types/bile-duct-cancer/treating/surgery.html
5. www.cancer.org/cancer/managing-cancer/treatment-types/radiation.html
6. www.cancer.org/cancer/types/bile-duct-cancer/treating/chemotherapy.html
7. www.cancer.org/cancer/types/bile-duct-cancer/treating/targeted-therapy.html
8. www.cancer.org/cancer/types/bile-duct-cancer/treating/targeted-therapy.html

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Greten TF, Schwabe R, Bardeesy N, Ma L, Goyal L, Kelley RK, Wang XW. Immunology and immunotherapy of cholangiocarcinoma. *Nat Rev Gastroenterol Hepatol*. 2023

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