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Bile Duct Cancer Causes, Risk Factors, and Prevention

Learn about the risk factors for bile duct cancer and what you might be able to do to help lower your risk.

Risk Factors

Risk Factors for Bile Duct Cancer

A risk factor is anything that affects your chance of getting a disease like cancer. Different cancers have different risk factors. Some risk factors, like smoking, can be changed. Others, like your age or family history, can't be changed.

But having a risk factor, or even many risk factors, does not mean that a person will get the disease. And many people who get the disease have few or no known risk factors

Learn more about the risk factors for bile duct cancer and if there are things you can do that might help lower your risk.

- [Certain diseases of the liver or bile ducts](#)
- [Inflammatory bowel disease](#)
- [Genetic Disorders](#)
- [Older age](#)
- [Ethnicity and geography](#)
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- [Diabetes](#)
- [Alcohol](#)
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Certain diseases of the liver or bile ducts

Certain conditions of the liver or bile ducts have been found to either cause bile duct cancer or to increase the risk of developing it.

Primary sclerosing cholangitis (Orlsrls 0 1 7odto either cause bile duct

Choledochal cyst disease is a rare condition which some people are born with. It causes bile-filled sacs along the bile ducts. (Choledochal means having to do with the common

Genetic Disorders

Genetic disorders are gene-related changes that you are born with. Lynch syndrome, BAP1 tumor predisposition syndrome, cystic fibrosis, and multiple biliary papillomatosis are genetic disorders associated with an increased risk of bile duct cancer.

Older age

Older people are more likely than younger people to get bile duct cancer. Most people diagnosed with bile duct cancer are in their 60s or 70s.

Ethnicity and geography

In the US, the risk of bile duct cancer is highest among Hispanic Americans. Worldwide, bile duct cancer is much more common in Southeast Asia and China, largely because of the high rate of infection with liver flukes in these areas.

Obesity

Being [overweight or obese](#)¹ can increase the risk of cancers of the gallbladder and bile ducts. This could be because obesity increases the risk of gallstones and bile duct stones, as well as the risk of non-alcoholic fatty liver disease. But there may be other ways that being overweight can lead to bile duct cancers, such as changes in certain hormones.

Exposure to Thorotrast

A radioactive substance called **Thorotrast** (thorium dioxide) was used as a contrast agent for x-rays until the 1950s, when its production and use was banned. It was found to increase the risk for bile duct cancer, as well as other types of liver cancer.

Diabetes

People with diabetes (type 1 or type 2) have been found to have a higher risk of bile duct cancer. It's unclear whether this is because of high levels of blood sugar or because of other diabetes-associated issues such as obesity or high cholesterol.

Alcohol

People who drink [alcohol](#)² are more likely to get intrahepatic bile duct cancer. The risk is higher in those who have liver problems from drinking alcohol.

Other possible risk factors

Studies have found other factors may also increase the risk of bile duct cancer. But for these factors, the link to bile duct cancer risk is not as clear.

Other possible risk factors include:

- [Smoking](#)³
- Chronic pancreatitis (long-term inflammation of the pancreas)
- Infection with [HIV](#)⁴ (the virus that causes AIDS)
- Exposure to [asbestos](#)⁵
- Exposure to [radon](#)⁶ or other radioactive chemicals
- Exposure to dioxin, nitrosamines, or polychlorinated biphenyls (PCBs). People who work in rubber plants and automotive industries may be exposed more often to these chemicals.

Hyperlinks

1. www.cancer.org/cancer/risk-prevention/diet-physical-activity/body-weight-and-cancer-risk.html
2. www.cancer.org/cancer/risk-prevention/diet-physical-activity/alcohol-use-and-cancer.html
3. www.cancer.org/cancer/risk-prevention/tobacco/health-risks-of-tobacco/health-risks-of-smoking-tobacco.html
4. www.cancer.org/cancer/risk-prevention/infections/hiv-infection-aids.html
5. www.cancer.org/cancer/risk-prevention/chemicals/asbestos.html
6. www.cancer.org/cancer/risk-prevention/radiation-exposure/radon.html

References

Abou-Alfa GK, Jarnagin W, Lowery M, D'Angelica M, Brown K, Ludwig E, Covey A, Kemeny N, Goodman KA, Shia J, O'Reilly EM. 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.



What Causes Bile Duct Cancer?

Scientists are starting to understand how inflammation might lead to certain changes in the DNA of cells, making them grow out of control and form cancers. DNA is the chemical in each of our cells that makes up our genes (the instructions for how our cells function).

- Genes that control when cells grow, divide into new cells, and die are called **oncogenes**.
- Genes that slow down cell division or cause cells to die at the right time are called **tumor suppressor genes**.

Cancers can be caused by DNA changes (mutations) that turn on oncogenes or turn off tumor suppressor genes. Changes in many different genes are usually needed for a cell to become cancer.

We usually look like our parents because they are the source of our DNA. But DNA affects more than how we look. Some people inherit DNA mutations from their parents that greatly increase their risk for certain cancers.

There are few known genetically inherited disorders that are associated with higher risk for bile duct cancer. Gene mutations related to bile duct cancers are usually acquired during life rather than inherited. For example, acquired changes in the *TP53* tumor suppressor gene are found in most bile duct cancers. Other genes that may play a role in bile duct cancers include *KRAS*, *HER2*, and *ALK*.

Some of the gene changes that lead to bile duct cancer might be caused by inflammation. But sometimes the cause of these changes is not known. Many gene changes might just be random events that sometimes happen inside a cell, without having an outside cause.

References

Abou-Alfa GK, Jarnagin W, Lowery M, D'Angelica M, Brown K, Ludwig E, Covey A, Kemeny N, Goodman KA, Shia J, O'Reilly EM. 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. May 24, 2024. Accessed at www.cancer.gov/types/liver/patient/about-bile-duct-cancer-pdq on August 19, 2024. 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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Can Bile Duct Cancer Be Prevented?

There's no known way to prevent most bile duct cancers in the US. Many of the known risk factors for bile duct cancer, such as age, ethnicity, and bile duct abnormalities, are beyond our control. However, there are things you can do that might help lower your risk.

- [Diet and physical activity](#)
- [Other ways to reduce your risk](#)

Diet and physical activity

Getting to and staying at a healthy weight is one important way you might be able to reduce your risk of bile duct cancer, as well as many other types of cancer.

The American Cancer Society recommends that people try to stay at a healthy weight, keep physically active, and follow a healthy eating pattern. This includes eating plenty of fruits, vegetables, and whole grains, and limiting or avoiding red and processed meats, sugary drinks, and highly processed foods.

Learn more: [American Cancer Society Guidelines for g ET q BTw 0 0.2 0.62745 RG.7 m 171.37 2 1 0](#)

- **Treat hepatitis:** Treat hepatitis infections (such as B and C) to help prevent cirrhosis.

Avoid or limit [alcohol](#)²

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