



National Comprehensive
Cancer Network®

2026

NCCN Guidelines for Patients®

Cancer care recommendations from leading experts at the
National Comprehensive Cancer Network® (NCCN®)

Gallbladder and Bile Duct Cancers



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NCCN Guidelines for Patients®

The essential guide for people facing cancer.

Based on care recommendations from leading cancer experts.

Explains high-quality cancer care provided at
state-of-the-art cancer centers.

Reviewed and revised every year.

Did you know that top cancer centers across the United States work together to improve cancer care? This alliance of leading cancer centers is called the National Comprehensive Cancer Network® (NCCN®).

Because cancer care is always evolving, NCCN develops and frequently updates evidence-based cancer care recommendations used by health care providers worldwide. These recommendations are known as the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®).

The NCCN Guidelines for Patients plainly explain these expert recommendations, so you can talk with your care team about the best care for you.

**These NCCN Guidelines for Patients are based on the NCCN Guidelines®
for Biliary Tract Cancers, Version 1.2026 — March 10, 2026.**

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About gallbladder and bile duct cancers

- 5 What is gallbladder cancer?
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- 6 How are gallbladder and bile duct cancers treated?
- 6 What are the risk factors of gallbladder and bile duct cancers?
- 7 How can I get the best care?

A diagnosis of gallbladder or bile duct cancer is overwhelming. What exactly are these cancers? What's a bile duct? Read on to learn more.

What is gallbladder cancer?

The gallbladder is a pear-shaped organ found under the liver. It's located on the right side of the belly (abdomen), above the belly button, close to the liver.

The inner and outer layers of the gallbladder are membranes, which are very thin layers of tissue. Between these membranes are layers of muscle and connective tissue.

Gallbladder cancer starts in the innermost layer and grows outward through the layers of the gallbladder wall.

Cancer cells don't behave like normal cells. They develop genetic changes that allow them to multiply and make many more cancer cells. Cancer cells crowd out and overwhelm normal cells.

Sometimes, cancer cells spread to lymph nodes or other organs. Gallbladder cancer can spread to nearby veins, arteries, bile ducts, and organs, such as the liver. This is called metastatic gallbladder cancer.

How this guide can help you

Making decisions about cancer care is stressful. There's a lot to learn, and you don't know what the future holds.

Use this guide to get the information and support you need.

Patients, doctors, and other health care professionals trust the NCCN Guidelines for Patients. This guide uses clear, everyday language to explain current cancer care recommendations made by respected experts in the field. Their recommendations are based on the latest research and practices at leading cancer centers.

Your health is unique to you, so your cancer care should be, too. As you read this guide, you'll learn which treatments are likely to provide the best results for you. And you'll be better prepared to talk with your care team

What is bile duct cancer?

A bile duct is a small tube that drains digestive fluid (bile) from the liver into the intestines. Bile is a yellowish-brown fluid produced by the liver and stored in the gallbladder.

The smallest ducts join to form the right and left liver (hepatic) bile ducts. The right and left hepatic ducts drain bile from the liver. Bile ends up in the intestines and helps to digest the food you eat.

1 About gallbladder and bile duct cancers

Cancer that starts inside these ducts is bile duct cancer. It's different from liver cancer, which comes from liver cells.

Cancer that spreads from the bile duct into other parts of the body (like the liver) is called metastatic bile duct cancer.

This guide organizes bile duct cancer into two categories:

- Cancer that starts in bile ducts inside the liver
- Cancer that starts in bile ducts outside the liver

How are gallbladder and bile duct cancers treated?

Treatment for gallbladder and bile duct cancers depends on how much cancer there is and where it's located. If it's completely inside the gallbladder and bile ducts, surgery and chemotherapy might be the only treatments necessary.

However, if the cancer has spread to other regions of the body, such as the liver or digestive system, more treatments might be needed, such as radiation. See Chapter 3 for complete information on treatment.

What are the risk factors of gallbladder and bile duct cancers?

Although we don't know exactly what causes cancer, we do have some understanding of the conditions that can lead to gallbladder and bile duct cancers.

Gallbladder cancer risk factors

The following is a list of risk factors of gallbladder cancer. Some of these conditions develop during your life, and others you're born with:

- Gallstones (cholelithiasis)
- Porcelain gallbladder (the gallbladder wall gets rigid from calcium)
- Inflammatory bowel disease (IBD)
- Any non-cancerous mass in the gallbladder larger than a pea (1 cm or larger)
- Primary sclerosing cholangitis
- Anomalous pancreaticobiliary duct junction

Bile duct cancer risk factors

Bile duct cancer has similar risk factors to liver cancer and gallbladder cancer, but with some differences:

- Biliary cysts and stones
- Hepatitis B and C virus
- Cirrhosis
- Diabetes
- Obesity
- Alcohol and tobacco use

How can I get the best care?

Advocate for yourself. You have an important role to play in your care. Many people feel more satisfied when they actively take part in planning their cancer care.

The NCCN Guidelines for Patients will help you play a larger role in your care. Discuss the recommendations in this guide with your care team. Ask questions about your options and share your goals and concerns.

Don't know what to ask? You're not alone. That's why we include suggested questions to ask at the end of chapters.

Keep reading to find the best care for you.

“

You don't have control over the past or future, but you do have control over this moment now. Live for the moment each and every day.”



We want your feedback!

Our goal is to provide helpful and easy-to-understand information on cancer.

Take our survey to let us know what we got right and what we could do better.

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Testing for gallbladder and bile duct cancers

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2 Testing for gallbladder and bile duct cancers

Treatment planning starts with testing.

This chapter presents an overview of the tests you might receive and what to expect.

If you've already received a diagnosis of gallbladder or bile duct cancer, chances are it was found during surgery or a scan for something else. More tests will be done to determine how advanced the cancer is and to plan treatment (see **Guide 1**).

Imaging usually comes first.

Imaging tests

Imaging tests take pictures of the inside of your body. A radiologist, a doctor who specializes in interpreting imaging tests, will write a report and send it to your health care team.

The report may be sent to you through your patient portal or access system.

You should discuss the results with your care team.

Contrast material

Contrast material is used to improve imaging pictures. Contrast materials are not dyes. They're substances that help to enhance and improve the images of organs and structures in the body.

Guide 1 Tests for treatment planning

Medical history and physical exam

Blood tests

- Hepatitis test
- Bilirubin, transaminases, alkaline phosphatase
- Prothrombin time or international normalized ratio, albumin, blood urea nitrogen, and creatinine
- Complete blood count (CBC) and platelet count
- Alpha-fetoprotein (AFP)

Imaging tests

- Percutaneous transhepatic cholangiography (PTC)
- CT/MRI of the chest and pelvis (hip bone)
- PET scan
- Ultrasound
- Abdominal and pelvic CT or MRI with contrast

2 Testing for gallbladder and bile duct cancers

Contrast is delivered through a needle in your arm. It leaves the body in your pee immediately after the test. The types of contrast vary and are different for CT and MRI.

Contrast might not be used if you have a serious allergy or if your kidneys aren't working well. Tell your care team if you've had allergic reactions to contrast in the past. You might be given medicine to avoid the effects of allergies.

CT scan

A CT scan uses x-rays and computer technology to take pictures of the inside of the body. It takes many x-rays of the same body part from different angles. All the images are combined to make a series of detailed cross-sectional images of the body.

A CT scan of your chest, abdomen, and/or pelvis may be needed to check for cancer. In most cases, contrast will be used.

Sometimes, a scan is done first without contrast. Then, the contrast is injected, and another scan is done. This is called a dynamic CT. It allows your health care team to see your gallbladder or bile ducts in greater detail than a normal CT.

Some people refer to a CT scan as a CAT scan. Either name is correct.

Multiphasic CT scan

A multiphasic CT scan starts without contrast. Then contrast is added, and multiple sets of pictures are taken as the contrast moves through the arteries and veins of the gallbladder and bile ducts. This is similar to a dynamic CT, but more pictures are taken to show the contrast moving through the system.

This allows your care team to see where the tumor is in the gallbladder or bile ducts and if the tumor involves any veins, arteries, or other organs.

CT machine

A CT machine is large and has a tunnel in the middle. During the test, you will lie on the table that moves slowly through the tunnel.



2 Testing for gallbladder and bile duct cancers

MRI scan

An MRI scan uses radio waves and powerful magnets to take pictures of the inside of the body. It doesn't use x-rays or radiation.

Because the MRI machine uses very strong magnets, tell the technologist if you have any metal in your body. You'll probably need to undress completely and wear a robe in the scanning room.

No metal is allowed near the MRI scanner (unless it's a special metal that is non-magnetic, such as titanium). Be sure to check with your doctor and the technologist if you have any medical implants that can't be removed before the scan.

During the test, you'll likely be asked to hold your breath for 10 to 20 seconds as the technician collects the images. Contrast is often used.

The most common type of MRI machine, a closed MRI, has a capsule-like design where the magnet surrounds you. There are also open MRI machines, which have a magnetic top and bottom and an opening on each end.

Closed MRIs are more common than open MRIs, so if you're anxious about enclosed or tight spaces (claustrophobia), be sure to talk to your care team—you may be given a mild relaxant/sedative to help tolerate the MRI scan.

MRIs are also loud. Ask the scanning team for earplugs or headphones to help with the noise. Sometimes, they might play music inside the machine as well. You can also ask for a blanket or cushions to make yourself more

comfortable during the scan. An MRI scan also takes much longer than a CT scan.

The MRI technician can talk to you through an intercom inside the machine. You'll also have a way to signal to the scanning team if you need help.

MRCP

A magnetic resonance cholangiopancreatography (MRCP) is a type of MRI scan that makes very clear pictures of the pancreas and bile ducts. No contrast is used because bile and other fluids act as their own contrast. An MRCP is usually done along with a regular MRI scan.

PET scan

A PET scan uses a radioactive sugar molecule called a tracer. The tracer is injected into a vein to show where cancer spots might be in the body. It harmlessly comes out of the body in your pee within 24 hours.

Cancer spots show up as bright areas on PET scans. However, not all tumors appear on a PET scan, and not all bright spots are cancer. It's typical for the brain, heart, kidneys, and bladder to be bright on a PET scan.

Inflammation or infection can also show up as a bright spot.

When a PET scan is combined with CT, it's called a PET/CT scan.

2 Testing for gallbladder and bile duct cancers

Ultrasound

Ultrasound uses high-energy sound waves to form pictures of the inside of the body. It's like a sonogram used during pregnancy. A wand-like probe (transducer) is moved on your skin. The technician will prepare your skin with gel beforehand.

Ultrasound is painless and doesn't use radiation like x-rays, so it can be repeated as needed. It's also good at showing small areas of cancer that are near the skin. Sometimes, an ultrasound is used to guide a biopsy.

PTC

Percutaneous transhepatic cholangiography (PTC) uses contrast and x-rays to take pictures of the bile ducts. This procedure is usually done by an interventional radiologist, an expert in using imaging tests and image-guided tools to perform minimally invasive techniques to diagnose or treat disease.

A needle or thin, flexible tube (catheter) is placed through the skin into a bile duct, and contrast is injected. Then, x-rays that use small amounts of radiation are taken to make pictures of the bile ducts.

If necessary, the interventional radiologist can insert a catheter to drain fluid from the biliary tract into a bag outside the body or directly into the small intestine. A stent, which is a metal sleeve that holds a duct open, may also be placed for an obstruction or a blocked bile duct.

For this test, you'll be given medicine to help you relax.

Plastic catheters are often placed during the procedure. If so, you and your caregiver will learn how to care for these catheters.

Scoping procedures

Some imaging tests use a thin, tube-shaped tool called an endoscope (or scope) inserted into the body to look inside you with a camera.

The endoscope is usually guided into the body through a natural opening, such as the mouth, nose, or anus. It may also be inserted through a small surgical cut. An endoscope is often guided into the body through the mouth.

More than one type of scope can be used for imaging tests. Some common scoping procedures are described next.

Endoscopic ultrasound

An endoscopic ultrasound uses an endoscope that has a small ultrasound probe at the end. The endoscope is inserted through your mouth and guided down your throat into your stomach. Then it's guided into the first part of the small intestine.

The ultrasound probe bounces sound waves off your liver and other organs to make pictures of the inside of your body.

Sometimes, this test can detect small lesions in the liver or pancreas that are difficult to see on a CT or an MRI scan. It can also be used to get a closer look at your bile ducts.

You'll be given medicine to keep you comfortable during the procedure. Endoscopic ultrasound might be done with ERCP.

2 Testing for gallbladder and bile duct cancers

ERCP

Endoscopic retrograde cholangiopancreatography (ERCP) uses an endoscope and x-rays to take videos of the inside of your body.

For this test, the endoscope is inserted through your mouth and guided down your throat and stomach to the small intestine. Next, a thinner tube, called a catheter, is passed through the middle of the endoscope.

The catheter is used to inject contrast material into the liver and bile ducts. The contrast material allows the ducts to be seen on the x-ray pictures.

ERCP is used to open a blocked bile duct caused by a tumor in the liver, bile duct, or pancreas. During ERCP, samples of the tumor (called a biopsy) may be taken from the common bile duct.

Sometimes, samples are removed with a small brush at the end of the endoscope. These samples are called brushings. Brushings are usually taken before stent placement.

You'll be sedated during ERCP to keep you comfortable during the procedure. Sometimes ERCP is done with endoscopic ultrasound instead of endoscopic x-rays.

Upper GI endoscopy

In an upper gastrointestinal (GI) endoscopy, an endoscope is guided down the throat into the esophagus, stomach, and upper parts of the small intestine.

This test is used to inspect the lining of these organs and to look for any signs of cancer or other abnormalities, such as enlarged blood vessels or ulcers.

Laparoscopy

Laparoscopy (also called keyhole surgery) is a procedure that allows your surgeon to see inside your abdomen without using a large incision.

It uses a special endoscope called a laparoscope. For this test, the laparoscope is inserted through a tiny cut in your abdomen.

Laparoscopy is done under general anesthesia, which means you'll be asleep. A ventilator (breathing machine) will safely support your breathing while you sleep under anesthesia.

Laparoscopy is only done in certain situations. It's used to:

- Stage the disease
- Detect any cancer spread inside your abdomen that may have been missed on imaging scans
- Obtain biopsy samples
- Determine if you're able to have surgery to remove the tumor

Colonoscopy

In a colonoscopy, a colonoscope is used to examine the inside of the colon. It has a light and a lens for viewing and may have a tool to remove tissue. It's guided through the anus, then into the rectum and the colon.

You'll be given medicine to put you to sleep and keep you comfortable during the procedure.

General health tests

Medical history

A medical history, sometimes called a health history, will help determine which treatment is best for you.

A medical history is a record of all health issues and treatments you've had in your life. Be prepared to list any illness or injury, and when it happened. Also, tell your care team about any symptoms you have.

Bring a list of your old and new medicines and any over-the-counter (OTC) medicines, herbal remedies, or supplements. Some supplements can affect medicines that your care team may prescribe.

Liver disease history

You might be asked about conditions that affect the health of your liver, such as cirrhosis, hepatitis B or C virus or infection, episodes of jaundice, gallstones, alcohol use, and fatty liver disease.

Family history

Some cancers and other diseases can run in families. Your health care provider will ask about the health history of family members who are blood relatives. This information is called family history.

Ask family members on both sides of your family about their health issues like heart disease, cancer, and diabetes, and at what age they were diagnosed.

You should find out the specific type of cancer or where the cancer started, if it's in multiple locations, and if they had genetic testing.

Physical exam

A member of your care team will perform a thorough physical exam of your body. This exam includes checking vital signs, such as heart rate and blood pressure. Your provider may also gently press on areas of your body to feel for swollen organs or lymph nodes.

Blood tests

Blood tests check for signs of disease and how well organs are working. They require a sample of your blood, which is removed through a needle placed into a vein in your arm.

If you know your veins are difficult to find, let the lab tech know. They may be able to get a machine that will help find your veins. This way, you'll get fewer pokes from the needle, and it's less stressful.

Complete blood count

A complete blood count measures the levels of red blood cells, white blood cells, and platelets in your blood. Red blood cells carry oxygen throughout your body, white blood cells fight infection, and platelets control bleeding.

Elevated white blood cells, as well as a reduction in red blood cells or platelets, can indicate infection or cancer.

Comprehensive metabolic panel

A comprehensive metabolic panel measures 14 different substances in your blood, including blood urea nitrogen and creatinine. This test provides important information about how well your kidneys and liver are working.

2 Testing for gallbladder and bile duct cancers

Liver function panel

The gallbladder, bile ducts, and liver rely on each other to work properly.

Liver function tests look at the health of your liver by measuring chemicals that are made or processed by the liver. Levels that are too high or too low signal that the liver isn't working well.

A liver function panel usually measures:

- Albumin
- Alkaline phosphatase (ALP)
- Aspartate aminotransferase (AST) and alanine transaminase (ALT)
- Bilirubin

The liver produces chemicals necessary for your blood to clot in response to an injury. Tests to measure how long it takes your blood to clot might be done, such as:

- International normalized ratio
- Prothrombin time

Hepatitis panel

A hepatitis panel is a blood test that checks to see if you have a hepatitis infection. You may be referred to a hepatologist if you test positive. A hepatologist is a doctor who specializes in the care of the liver, biliary tract, gallbladder, and pancreas.

Hepatitis infection causes the liver to swell. When swollen, the liver might not work as it should. Viruses called hepatitis B and hepatitis C are the most common types of chronic (long-term) hepatitis.

Chronic hepatitis B and a current or past hepatitis C infection increase the risk of liver cancer and biliary tract cancers. Hepatitis B can cause cirrhosis, liver failure, and cancer.

Biopsy

A biopsy is a procedure that removes samples of fluid or tissue. This usually involves sampling some of the cancer cells with a needle or surgically. The cells are then sent to a laboratory for testing.

Different situations call for different biopsies. You might not even have a biopsy until you have surgery to remove the mass in your gallbladder or bile duct.

Types of possible biopsies include:

- **Core needle biopsy** removes tissue samples with a hollow needle about the same size as a needle used for an IV line. An ultrasound or CT scan may help the radiologist find the area to biopsy.
- **Fine-needle aspiration** uses a thin needle to remove a sample of tissue or fluid. An ultrasound may guide the biopsy.
- **Brushings** are tumor or cell samples removed with a small brush at the end of the endoscope, usually during an endoscopic procedure.

Tumor biomarker testing

Biomarkers are chemicals, substances, or anything else in your body that can be measured to assess your health. Cancer antigen (CA) 19-9, carcinoembryonic antigen (CEA), and alpha-fetoprotein (AFP) are examples of biomarkers of gallbladder and bile duct cancers that can be detected in the blood.

Tumor biomarkers can help with diagnosis, seeing how well treatment works, and keeping track of cancer growth. They can also be used to determine appropriate targets for targeted therapy, described in the next chapter.

Tumor mutation testing

A sample of your tumor or blood from your biopsy may be tested to see if the cancer cells have any specific mutations. Some mutations, such as *NTRK* and *RET* gene fusions or microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR), *FGFR2*, *IDH1*, or *BRAF* V600E mutations, can be targeted with specific therapies.

Tumor mutation testing is separate from the genetic testing for mutations you may have inherited from your biological parents.

Genetic risk testing

Depending on your family history or other features of your cancer, your health care provider might refer you for hereditary genetic testing to learn more about your cancer.

Genetic testing is done using blood or saliva (spitting into a cup or swabbing your cheek). The goal is to look for gene mutations inherited from your biological parents.

Some mutations can put you at risk of more than one type of cancer. You can pass these genes on to your children. Other family members might also carry these mutations. Tell your care team if there is a family history of cancer.

A genetic counselor or trained provider will speak to you about the results. Test results may be used to guide treatment planning. They may also help guide further testing for your family members.

BRCA tests

Normal *BRCA* genes help to prevent tumor growth. They help fix damaged cells and help cells grow normally.

But mutations in *BRCA1* or *BRCA2* increase the risk of breast, ovarian, prostate, colorectal, pancreatic, and skin cancers. Mutated *BRCA* genes can also affect how well some treatments work.

Test results

Results from imaging studies, blood tests, biopsies, and genetic testing will be used to determine your treatment plan. It's important to understand what these tests mean. Ask questions and keep copies of your test results. Online patient portals are also a great way to access your test results.

Key points

- Tests are used to find cancer, plan treatment, and check how well treatment is working.
- A medical history and physical exam inform your care team about your overall health.
- Blood tests check for signs of disease and how well organs are working.
- Imaging tests take pictures of the inside of your body. Images can be made with scanning machines or scoping tools.
- A biopsy removes a sample of tissue or fluid. A biopsy of the tumor might be done during surgery or a scoping procedure.
- A sample from a biopsy of your tumor may be tested to look for specific DNA mutations or other molecular features. Some mutations can be targeted with specific therapies.
- Genetic testing might be done to look for gene mutations inherited from your biological parents.

Questions to ask

- What tests will I have? How often will they be repeated?
- Will my insurance pay for these tests?
- How soon will I know the results, and who will explain them to me?
- What will you do to make me comfortable during testing?
- How will my biopsy be performed? What else might be done at this time?

What's next?

Once you've received your complete diagnosis and you've discussed the treatment plan with your care team, you'll begin treatment. The next chapter describes each NCCN-recommended treatment in detail.

3

Types of treatment

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3 Types of treatment

There is more than one treatment for gallbladder and bile duct cancers. Often, you'll have multiple treatments at different times. This chapter describes NCCN-recommended treatment options and what to expect during treatment.

Gallbladder and bile duct cancers are treatable. You should have regular talks with your care team about your goals for treatment and your treatment plan.

If possible, seek treatment at a hospital or cancer center that specializes in your type of cancer.

Treatment can be local, systemic, or a combination of both:

- **Local therapy** focuses treatment on a certain area. It includes surgery, arterially directed therapy, and radiation therapy.
- **Systemic drug therapy** works throughout the body. It includes chemotherapy, targeted therapy, and immunotherapy.

There are many treatment options. Several factors play a role in how cancer responds to treatment.

Care team

Treating cancer takes a team approach. Treatment decisions should involve a multidisciplinary team. This is a team of health care and psychosocial care professionals from different backgrounds who have knowledge and experience in your type of cancer.

This team is united in planning and carrying out your treatment plan. Ask who will coordinate your care.

Some members of your care team will be with you throughout cancer treatment, while others will be there for parts of it. Get to know your care team and help them get to know you.

Keep a list of names and contact information for each member of your team. This will make it easier for you and anyone involved in your care to know who to contact with questions or concerns.

Categories of preference

All treatments listed in this guide are recommended and appropriate. When helpful, NCCN experts also assign a level of preference to their recommendations for systemic therapies:

- **Preferred therapies** have the most evidence they may work better and be safer than other therapies.
- **Other recommended therapies** can provide effective results but may have less evidence, more side effects, or may not work quite as well as preferred therapies.

3 Types of treatment

- **Therapies used in certain cases** work best for individuals with specific cancer features or health circumstances.

Surgery

Surgery is the main treatment for gallbladder and bile duct cancers. Surgery can also provide supportive care by easing pain or discomfort or extending life. This is called palliative surgery.

When preparing for surgery, seek the opinion of an experienced surgeon. The surgeon should be an expert in the type of surgery you need. Hospitals that perform many surgeries often have better results.

You can ask for a referral to a hospital or cancer center that has experience in treating your type of cancer.

Surgery can remove cancer in different ways. This depends on your circumstances, such as the size and location of the tumor, and whether any cancer is surrounding organs and tissues. Surgery is based on the safest and best way to remove the cancer.

You might have more than one surgery. You might also have a wound drain to prevent fluid from collecting in the body after surgery.



Team approach

Depending on your diagnosis, your team might include the following specialists:

A hepatologist is an expert in diseases of the liver, gallbladder and bile ducts, and pancreas.

A diagnostic radiologist interprets the results of imaging tests.

An interventional radiologist performs needle biopsies, ablations, directs therapies, and places ports for treatment.

A pathologist analyzes the cells, tissues, and organs removed during a biopsy or surgery and provides cancer diagnosis, staging, and information about biomarker testing.

A surgical oncologist performs operations to remove cancer. Some transplant surgeons and hepatobiliary surgeons also care for people with liver cancer.

A medical oncologist treats cancer using drug therapies.

A radiation oncologist prescribes and delivers radiation therapy to treat cancer.

Oncology nurses provide hands-on care, like giving systemic drug therapy, managing care, answering questions, and helping people cope with side effects.

3 Types of treatment

Goal of surgery

The goal of surgery or tumor resection is to remove all the cancer. To do so, the tumor is removed along with a rim of normal-looking tissue around its edge, called the surgical margin. The surgical margin may look normal during surgery, but cancerous cells may be found when viewed under a microscope by a pathologist.

A clear or negative margin is when no cancer cells are found in the tissue around the edge of the tumor. Microscopic inspection has shown that the margin is negative for cancer, which is good news because it means the edges are clean and no visible cancer was left behind.

In a positive margin, cancer cells are found in normal-looking tissue around the tumor, so the margin is positive for cancer. If there's a

positive margin, you may need another surgery to try to remove the remaining tumor cells or radiation to kill the cancer cells left behind at the margin.

Pre-surgical imaging

You'll have imaging tests to see if the tumor can or can't be removed by surgery. Sometimes, imaging tests can't clearly show one way or the other.

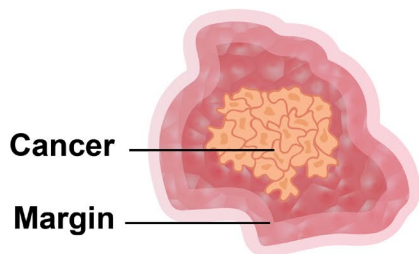
Open surgery

Open surgery, or laparotomy, removes tissue through one large surgical cut below your ribs. The large cut lets the surgeon directly view and access the tumor to remove it. Open surgery may take several hours or longer. After the surgery, you'll need to stay in the hospital to recover.

Surgical margin

The tumor will be removed, along with some normal-looking tissue around its rim. The normal-looking tissue is called the surgical margin. The surgical margin is tested for cancer. Postoperative therapy is based on if there is cancer in the margins.

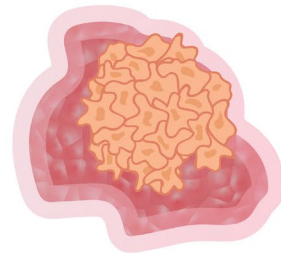
Negative margin
No cancer in margin



Positive margin
Cancer is found in margin
with lab tests



Positive margin
Cancer is easily seen
in margin



3 Types of treatment

Minimally invasive surgery

Minimally invasive surgery (or keyhole surgery) uses several small incisions or cuts. Small tools are inserted through each incision to perform the surgery. One of the tools, called a laparoscope, is a long tube with a video camera at the end.

The camera lets the surgeon see your gallbladder and other tissues inside your abdomen. Other tools are used to remove the tumor.

Laparoscopic surgery can also be done using robotic arms to control the surgical tools. This is called robot-assisted laparoscopic surgery.

Cholecystectomy

A cholecystectomy removes the gallbladder and some tissue around it. The goal is to have no cancer remaining in the affected area.

Some people will also have parts of the liver, nearby lymph nodes, and bile ducts removed during a cholecystectomy. The tumor size and location will help the surgeon decide on the extent of surgery.

Ask what might be removed during surgery, how this might affect your recovery, and what further treatment might be needed.

Partial liver removal

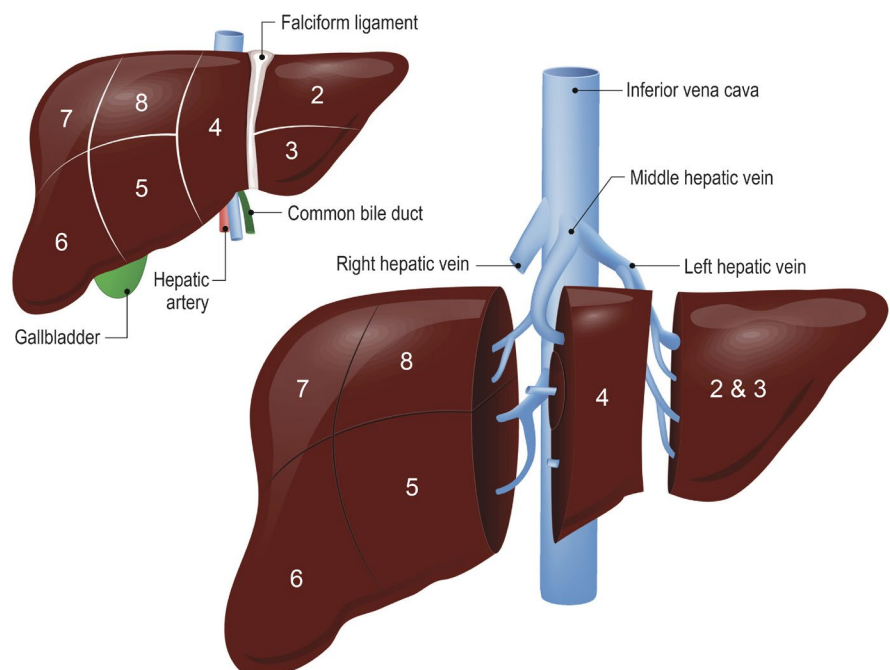
A partial liver removal is different from a liver transplant: It's removing a portion of the liver, such as a small piece or an entire lobe.

After surgery, the part of the liver that remains will keep working, and the missing section will regrow.

If you can't have a partial liver transplant due to the number of tumors, you might receive a complete liver transplant.

Liver sections

The liver is divided into 7 sections or segments based on the location of the portal vein, hepatic vein, and bile ducts.



3 Types of treatment

Liver transplant

In a liver transplant, the entire liver is removed and replaced with a healthy donor liver. The new liver may be donated by a person who recently died, or a section of the liver may be donated by a living person.

A liver transplant depends on certain size limits and tumor locations.

If you receive a liver transplant, you'll also receive medicine to help prevent your body from rejecting the donor liver.

However, not everyone is a candidate for a liver transplant. There are specific requirements that need to be met to qualify.

Transplant requirements

Requirements to qualify for a liver transplant are set by the United Network for Organ Sharing (UNOS), the non-profit organization that manages the organ transplant list in the United States. One of them is a MELD score.

The poorer the liver function, the higher the MELD score. The person with the highest MELD score is at the top of the transplant list.

A MELD score shows UNOS how much a person needs a transplant, based on 5 blood tests:

- Total bilirubin, a measure of jaundice
- Prothrombin time, a measure of clotting ability
- Creatinine, a measure of kidney function
- Serum sodium, how much sodium is in the bloodstream

- Albumin, a measure of liver and kidney function

You can calculate your MELD score using an online calculator and a copy of your latest blood test results. Your health care team will also do this for the transplant list.

Lymphadenectomy

During a lymphadenectomy, the lymph nodes are removed, and a sample of tissue is checked under a microscope for signs of cancer. A lymphadenectomy is sometimes called lymph node dissection.

- **In a regional lymphadenectomy**, some of the lymph nodes near the tumor area are removed.
- **In a radical lymphadenectomy**, most or all the lymph nodes in the tumor area are removed.

Whipple procedure

A Whipple procedure is a surgery that removes the head of the pancreas, gallbladder, first part of the small intestine, part of the bile duct, and nearby lymph nodes. The surgeon then reconnects your small intestine to your stomach so your body can still digest food normally.

This surgery is often used for tumors located in the middle and lower part of the common bile duct.

Roux-en-Y hepaticojejunostomy

A Roux-en-Y hepaticojejunostomy is a procedure that bypasses the bile duct to allow digestive fluids to drain from the liver directly into the small intestine.

Systemic drug therapy

Systemic drug therapy works throughout the body. Types include targeted therapy and immunotherapy. Systemic drug therapy might be used alone or with other therapies.

Goals of systemic drug therapy should be discussed before you start treatment. Your wishes about treatment are important. Make your wishes known.

For a list of common systemic drug therapies, see **Guide 2**.

Targeted therapy

Targeted therapy focuses on specific or unique features of cancer cells. Targeted therapies seek out how cancer cells grow, divide, and move in the body. These drugs stop or inhibit the action of molecules that help cancer cells grow and/or survive.

Targeted therapies may be used to treat tumors that have certain gene mutations, such as neurotrophin receptor kinase (*NTRK*) gene fusion. Larotrectinib (Vitrakvi) and entrectinib (Rozlytrek) target cancer that has an *NTRK* gene fusion.

Guide 2

Some common systemic drug therapies

Chemotherapy examples	5-fluorouracil (5-FU) Capecitabine (Xeloda) Cisplatin (Platinol) FOLFIRI (leucovorin, 5-FU, irinotecan) FOLFOX (leucovorin, 5-FU, oxaliplatin)	Gemcitabine (Gemzar, Infugem) Methotrexate Oxaliplatin (Eloxatin) Paclitaxel (Taxol, Abraxane)
Targeted therapy examples	Dabrafenib (Tafinlar) Entrectinib (Rozlytrek) Futibatinib (Lytgobi) Ivosidenib (Tibsovo) Larotrectinib (Vitrakvi) Pemigatinib (Pemazyre) Pertuzumab (Perjeta)	Pralsetinib (Gavreto) Regorafenib (Stivarga) Selpercatinib (Retevmo) Trametinib (Mekinist) Trastuzumab (Herceptin) or Trastuzumab substitutes (biosimilars), such as Kanjinti, Ogivri, Herzuma, Ontruzant, and Trazimera
Immunotherapy examples	Dostarlimab-gxly (Jemperli) Durvalumab (Imfinzi)	Nivolumab (Opdivo) Pembrolizumab (Keytruda)

3 Types of treatment

A biosimilar is an almost identical version of a drug made by another company. It's used in the exact same way and at the same dose as the actual drug. The drug trastuzumab (Herceptin) has biosimilars including Kanjinti, Ogivri, Herzuma, Ontruzant, and Trazimera.

Immunotherapy

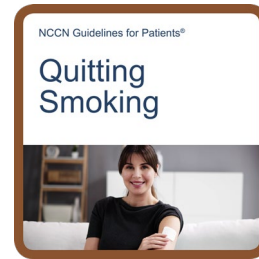
The immune system has many on and off switches. Tumors take advantage of off switches, such as PD-1 and CTLA-4. Immunotherapy is a type of systemic treatment that tries to turn the immune system back on to destroy tumor cells. Immunotherapy can be given alone or with other types of treatment.

Information on immunotherapy side effects is available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.

Directed therapy

Most tumors need blood to survive. Directed therapy (also called arterially directed therapy) treats tumors by injecting particles, chemotherapy, or radioactive beads directly into the blood vessels that supply the tumor(s).

A small catheter is inserted into an artery and is guided to the tumor. Once in place, the particles, chemotherapy, or beads are injected. These treatments last a few days but act directly on the tumor's blood supply and can be effective in reducing the tumor.



If you smoke or vape, seek help to quit

Smoking or vaping nicotine greatly increases your chances of having side effects during and after surgery. Smoking and vaping can limit how well cancer treatment works and prevent wound healing. They also increase your chances of developing other cancers. Cannabis use might also affect the amount of anesthesia used during surgery.

Nicotine is the chemical in tobacco that makes you want to keep smoking and vaping. Nicotine withdrawal is challenging for most people who smoke or vape. The stress of having cancer may make it even harder to quit. If you smoke or vape, ask your care team about counseling and medicines to help you quit.

More information can be found in *NCCN Guidelines for Patients: Quitting Smoking*, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.

For online support, try these websites:

- [SmokeFree.gov](https://www.smokefree.gov)
- [CDC.gov/tobacco](https://www.cdc.gov/tobacco)

3 Types of treatment

Common types of arterially directed therapy include:

- **Blocking blood flow (transarterial embolization)** involves injecting tiny particles into the blood vessels feeding the tumor(s). Stopping the blood flow cuts off the oxygen supply to the tumor and causes cancer cells to die.
- **Chemotherapy and blocking blood flow (transarterial chemoembolization)** involves injecting a chemotherapy mixture into the tumor to block the blood vessels connected to the tumor(s).
- **Chemotherapy beads (drug-eluting bead transarterial chemoembolization)** uses tiny particles loaded with chemotherapy that are injected into the blood vessels feeding the tumor(s). The particles give off small amounts of chemotherapy to the tumor over several days.
- **Radioactive beads (radioembolization)** are tiny glass or resin beads filled with a radioactive substance that are injected directly into the tumor(s). This procedure is often referred to as Y-90.

Depending on the circumstances, direct therapy may be used as a primary treatment, as a bridging treatment before a liver transplant, or for relieving pain.

The type of direct therapy recommended depends on the size, number, and location of tumors, as well as your previous medical history and the expertise of your treating physicians.

Directed therapy has risks: It can cause gallbladder/bile duct function to worsen if the tumor is involved in their blood flow. Directed therapy might not be used if your bilirubin, a component of bile used in breaking down blood cells, is above a certain level.

Radiation therapy

Radiation therapy uses high-energy x-rays, photons, protons, electrons, or other sources to kill cancer cells and shrink tumors. It can be given alone or with other treatments. Radiation therapy also may be a treatment for all tumors, regardless of location.

It might be used as supportive care (palliative care) to help ease pain or discomfort caused by cancer, or to control bleeding caused by a tumor.

Most types of radiation therapy include short treatment sessions that are given once daily over a few days to weeks. Ask your care team which radiation option(s) are best for you and what side effects to expect.

3 Types of treatment

External beam radiation therapy

External beam radiation therapy uses a machine outside the body to aim radiation at tumor(s) or areas inside the body.

Common types of external beam radiation therapy that may be used to treat your cancer include:

- **Classic (stereotactic body) radiation therapy** uses high-energy radiation beams to kill or ablate the tumor. This can result in normal tissue receiving radiation as well, with some side effects depending on the location.
- **Shaped (intensity-modulated) radiation therapy** uses small beams of different strengths to match the shape of the tumor. This limits the amount of radiation to normal tissue.

Clinical trials

You might also obtain treatment through a clinical trial.

A clinical trial is a type of medical research study. After being developed and tested in a lab, potential new ways of fighting cancer need to be studied in people.

If found to be safe and effective in a clinical trial, a drug, device, or treatment approach may be approved by the U.S. FDA.

Everyone with cancer should carefully consider all of the treatment options available for their cancer type, including standard treatments and clinical trials. Talk to your health care provider about whether a clinical trial may make sense for you.

Phases

Most cancer clinical trials focus on treatment and are done in phases.

- **Phase 1** trials study the safety and side effects of an investigational drug or treatment approach.
- **Phase 2** trials study how well the drug or approach works against a specific type of cancer.
- **Phase 3** trials test the drug or approach against a standard treatment. If the results are good, it may be approved by the FDA.
- **Phase 4** trials study the safety and benefit of an FDA-approved treatment.

Who can enroll?

It depends on the clinical trial's rules, called eligibility criteria. The rules may be about age, cancer type and stage, treatment history, or general health. They ensure that participants are alike in specific ways and that the trial is as safe as possible for the participants.

Informed consent

Clinical trials are managed by a research team. This group of experts will review the study with you in detail, including its purpose and the risks and benefits of joining. All of this information is also provided in an informed consent form. Read the form carefully and ask questions before signing it. Take time to discuss it with people you trust. Keep in mind that you can leave and seek treatment outside of the clinical trial at any time.

3 Types of treatment

Will I get a placebo?

Placebos (inactive versions of real medicines) are almost never used alone in cancer clinical trials. It's common to receive either a placebo with a standard treatment, or a new drug with a standard treatment. You'll be informed, verbally and in writing, if a placebo is part of a clinical trial before you enroll.

Are clinical trials free?

There's no fee to enroll in a clinical trial. The study sponsor pays for research-related costs, including the study drug. But you may need to pay for other services, like transportation or childcare, due to extra appointments. During the trial, you'll continue to receive standard cancer care. This standard care is often covered by your insurance, and it may lead to insurance co-pays.

Side effects

All cancer treatments can cause unwanted health issues called side effects. Side effects depend on many factors. These factors include the drug type and dose, length of treatment, and the person.

Treatment can cause several side effects. Some are very serious and may be harmful to your health. Others may just be unpleasant. You'll be monitored closely for side effects.

Ask for a complete list of side effects of your treatments. Also, tell your treatment team if you have any new or worsening symptoms. There may be ways to help you feel better and prevent some side effects.



Finding a clinical trial

In the United States

NCCN Cancer Centers

[NCCN.org/cancercenters](https://www.nccn.org/cancercenters)

The National Cancer Institute (NCI)

[cancer.gov/about-cancer/treatment/clinical-trials/search](https://www.cancer.gov/about-cancer/treatment/clinical-trials/search)

Worldwide

The U.S. National Library of Medicine (NLM)

clinicaltrials.gov

Need help finding a clinical trial?

NCI's Cancer Information Service (CIS)

1.800.4.CANCER (1.800.422.6237)

[cancer.gov/contact](https://www.cancer.gov/contact)

3 Types of treatment

Late effects

Late effects are side effects that occur months or years after a disease is diagnosed or after treatment has ended. Late effects may be caused by cancer or cancer treatment.

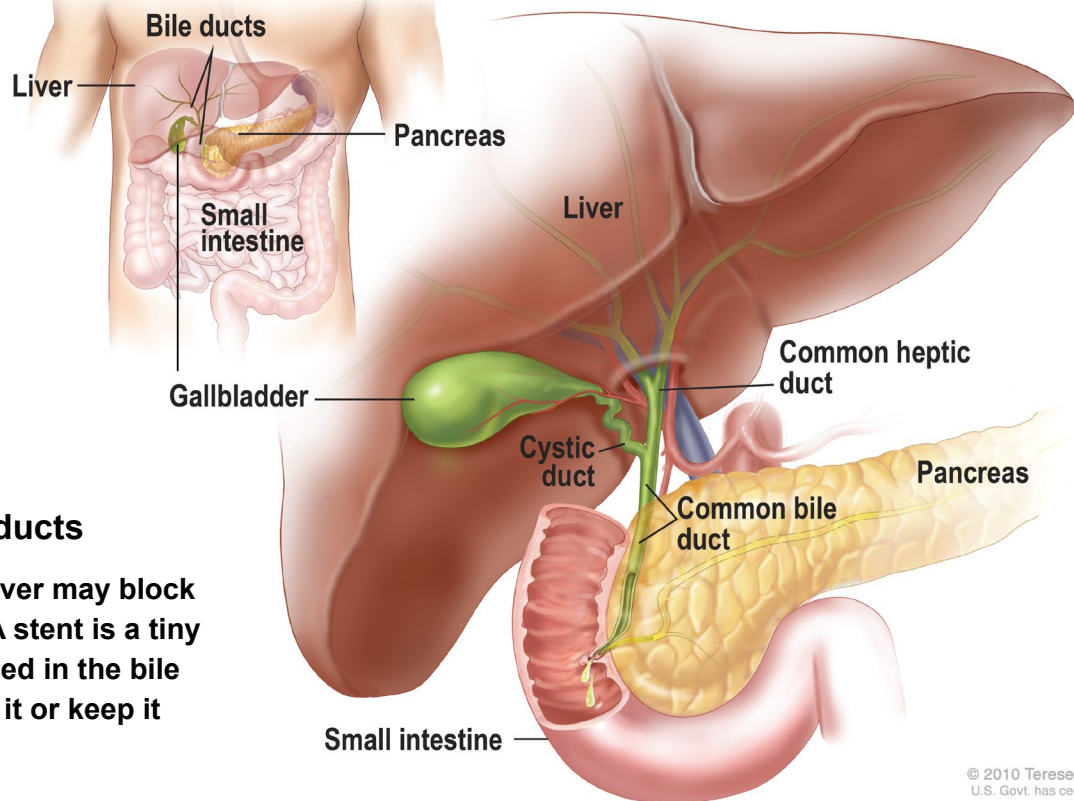
They may include physical, mental, and social problems, or second cancers. The sooner late effects are treated, the better. Ask your care team about what late effects could occur. This will help you know what to look for.

Blocked bile duct

A tumor may grow large enough to block a bile duct.

A blocked duct causes bile to build up in the liver. As a result, you may have pain, itching, discomfort, and/or yellowing of the skin and eyes. This is called jaundice. Blockage can also cause an infection of the bile duct, called cholangitis.

A blocked bile duct may be treated by placing a biliary stent or doing a biliary bypass.



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Blocked bile ducts

A tumor in the liver may block your bile duct. A stent is a tiny tube that is placed in the bile duct to unblock it or keep it open.

3 Types of treatment

A biliary stent is a small tube placed in the bile duct to unblock it and keep it open. Before the stent can be placed, bile may need to be drained through an opening in the side of the body. You may need a new or second stent during or after cancer treatment if the tumor grows.

A biliary bypass is a surgery to re-route the flow of bile from the common bile duct into the small intestine. The result is that the bile avoids (bypasses) the blocked part of the duct.

Biliary drainage

Biliary drainage is a procedure where bile is directly drained from your body. It can be done before surgery to help improve your health and after surgery to aid recovery. Biliary drainage may be an option even if you can't have surgery.

If you have metastatic disease, biliary drainage may also be recommended to improve your

liver function and nutrition, and to reduce the risk of infection.

Biliary drainage requires careful planning. Your treatment team should discuss and decide if this is a safe procedure for you.

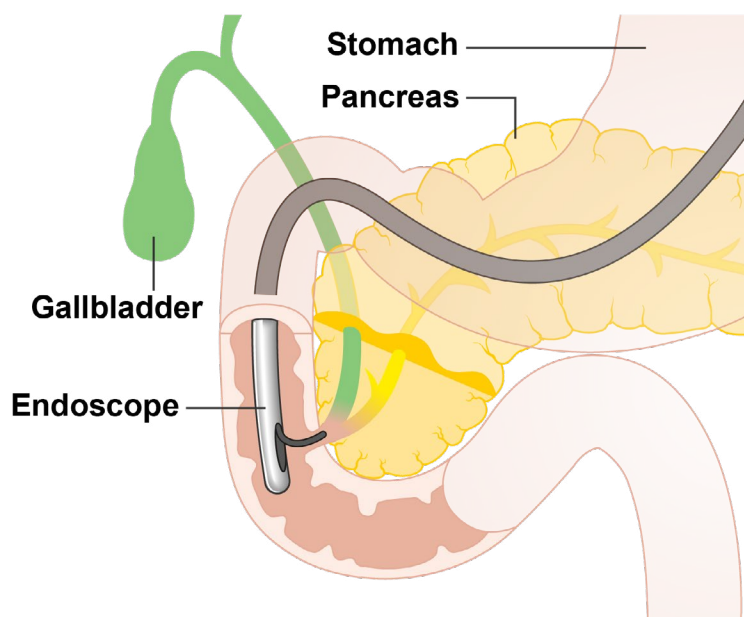
If it's an option, you may have biliary drainage using one of the following methods.

- **Surgical bypass** involves attaching the gallbladder or bile duct directly to the small intestine to drain the fluid. However, this way of draining fluid is rarely used. It carries the same risks as major surgery.
- **Endoscopic retrograde cholangiopancreatography (ERCP)** uses an endoscope to puncture the bile ducts and drain the fluid. Your gastroenterologist may insert a plastic or metal stent into the opening of the bile duct so the fluid drains directly into the small intestine.

An endoscopic retrograde cholangiopancreatography (ERCP).

The endoscope punctures the blocked bile duct, allowing bile to flow normally into the intestine. Sometimes the surgeon will use a stent to hold the duct open.

Credit: Cancer Research UK, CC BY-SA 4.0 via Wikimedia Commons



3 Types of treatment

ERCP is usually an outpatient procedure that doesn't require you to stay in the hospital. However, biliary stents can become blocked over time and may need to be replaced.

- **Percutaneous transhepatic cholangiography (PTC)** places a stent through the skin to drain the fluid. This approach may be used when the endoscope can't reach the blocked bile duct. It's usually done by an interventional radiologist as an outpatient procedure that doesn't require you to stay in the hospital.

Cholangitis

When a bile duct gets infected, it's called cholangitis. Symptoms include:

- Fever
- Pain on the right side of your abdomen, near the ribs
- Jaundice

Cholangitis can be a life-threatening side effect. If you have any of these 3 symptoms, contact your care team immediately.

Difficulty eating

Sometimes side effects from cancer or its treatment (surgery) might cause you to feel not hungry or sick to your stomach (nauseated). You might also have a sore mouth.

Healthy eating is important during treatment. It includes eating a balanced diet, eating the right amount of food, and drinking enough fluids. A registered dietitian, who's an expert in nutrition and food, can help.

Speak to your care team if you have trouble eating or maintaining weight.

Distress

Depression, anxiety, and sleeping issues are common and are a normal part of cancer diagnosis. Talk to your care team and with those whom you feel most comfortable about how you're feeling. There are services, people, and medicine that can help you. Ask about available support and counseling services.

Fatigue

Fatigue is a feeling of extreme tiredness. Fatigue may be caused by cancer, or it may be a side effect of treatment. Let your care team know how you're feeling and if fatigue is getting in the way of doing the things you enjoy. Eating a balanced diet, exercise, yoga, acupuncture, and massage therapy can help. You might be referred to a nutritionist or dietitian to help with fatigue.

Pain

Tell your care team about any pain or discomfort. You might meet with a palliative care specialist or a pain specialist to manage it.

Fluid buildup in the abdomen

If fluid is building up in your abdomen because your liver isn't working normally, ask your team about treatment options, such as medications that flush out fluids (diuretics) or a procedure to release fluid (paracentesis).

3 Types of treatment

Jaundice

Bile is made by the liver. It contains bilirubin, the yellowish-brown substance that gives bile its color. Sometimes, a tumor can block the flow of bile, leading to increased bilirubin levels in the blood. Jaundice is a yellowing of the skin and whites of the eyes due to a buildup of bilirubin in the body.

Symptoms include itching and dark-colored urine. If the common bile duct or the common hepatic duct is blocked, your stool (poop) may turn white.

If you have jaundice, biliary drainage might be done to see if it can relieve any bile duct blockage.

Key points

- Surgery is an option for most people with gallbladder and bile duct cancers.
- Systemic drug therapy works throughout the body. It includes chemotherapy, targeted therapy, and immunotherapy.
- Direct therapy treats tumors by injecting particles, chemotherapy, or radioactive beads directly into the blood vessels that supply the tumor(s).
- Radiation therapy uses high-energy x-rays, protons, photons, and other sources to kill cancer cells and shrink tumors.
- Clinical trials use the standard of care combined with a new technique to treat your cancer.

- All cancer treatments can cause unwanted health issues called side effects. Tell your care team about any side effects so they can be managed.

Questions to ask

- When will I start treatment?
- How long will treatment likely take?
- Which treatment(s) do you recommend and why?



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NCCN Guidelines for Patients
better for everyone!**

[NCCN.org/patients/comments](https://www.nccn.org/patients/comments)

4

Gallbladder cancer

- 34 During surgery
- 34 During pathology review
- 35 During imaging
- 36 Removable tumor
- 37 Unremovable tumor
- 38 Metastatic cancer
- 39 Cancer progression
- 40 Key points
- 40 Questions to ask

4 Gallbladder cancer

Gallbladder cancer starts in the innermost layer and grows outward through the layers of the gallbladder wall. Cancer can also spread to nearby veins, arteries, bile ducts, and organs such as the liver. Together, you and your care team will choose the treatment plan that's best for you.

Gallbladder cancer is often found by chance since it doesn't always cause symptoms. Treatment is based on how the cancer was found, if it has spread, and if there's cancer in any nearby organs and blood vessels.

The main treatment for gallbladder cancer is surgery. You'll have tests and procedures to find out if the tumor can be removed with surgery.

- **Multiphasic CT and MRI** of the abdomen and pelvis with contrast to learn more about the cancer and if it involves any nearby veins, arteries, or ducts.
- **Chest CT** with or without contrast to see if the cancer has spread (metastasized) to the lungs.
- **Staging laparoscopy** to determine the stage of your tumor (which can determine treatment).
- **Biomarker or genetic risk testing** to see if a medicine is available for your tumor.

Treatment is based on whether the cancer can be removed by surgery (resectable). You might meet with a surgeon during this time.

During surgery

Gallbladder cancer might be found by chance during surgery for something else. This could be surgery to remove suspected gallstones or for inflammation of the gallbladder.

If a mass that looks cancerous is found in the gallbladder during an unrelated surgery, the surgeon may remove a sample and have it tested for cancer. If any nearby lymph nodes look like they might have cancer, they'll also be removed.

During pathology review

The samples will be sent to a lab and analyzed (called pathology review). An expert hepatobiliary pathologist should review your pathology results.

Your care team will check the pathology report for details on the size and location of the tumor as well as if there are signs of disease in the cystic duct, other ducts, or nearby areas. The location of the tumor or abnormal cells is very important in guiding therapy, especially surgery.

The tumor's growth determines its type. This is discussed below.

T1a tumor

A T1a tumor has grown through the innermost layer of the gallbladder wall. If the tumor is

small with negative margins, then it might be safer to put off treatment and watch the tumor for any changes instead. You might hear this called observation or watch-and-wait.

During observation, you might have imaging and blood tests to check for tumor growth.

T1b or larger

A T1b tumor has invaded the muscle layer of the gallbladder wall. For a tumor that's T1b or larger, surgery might be possible and would remove part of the liver, nearby lymph nodes, and possibly the bile duct.

If surgery isn't possible, you might receive systemic drug therapy to shrink the tumor until it's safe for surgery. Clinical trials are also recommended for people with this type of tumor.

Cancer in the cystic duct

The cystic duct connects the gallbladder to the common hepatic duct, which is connected to the liver.

You may have surgery to determine how serious the cancer is. You might also receive preoperative treatment with systemic drug therapies.

Surgery is usually the best way to remove cystic duct tumors. Part of the liver, nearby lymph nodes, and possibly the bile duct would also be removed during the procedure.

If there's cancer in the cystic duct, then you might have drug treatment before surgery (preoperative therapy) to reduce the amount of cancer or shrink the tumor to make surgery easier.

However, if a large tumor has invaded the liver and/or cancer is near the lymph nodes, then you may have preoperative chemotherapy to shrink the tumor before surgery. This may not be the best option if there's a chance of the tumor growing back before surgery.

A clinical trial is also an option for cancer found in the cystic duct.

During imaging

Sometimes, a tumor or mass is found on imaging being done for other medical reasons. If imaging raises a concern for gallbladder cancer, you'll have more tests.

It can be difficult to see exactly how much cancer there is and where it might have spread using imaging tests alone. As a result, a laparoscopy can be helpful to see how serious your cancer is.

Removable tumor

A tumor in the gallbladder may be removed with surgery. The gallbladder (cholecystectomy), part of the liver, some lymph nodes, and possibly the bile duct will be removed during the procedure.

A gallbladder cancer operation requires a skilled surgeon. Sometimes, a tumor can't be removed during surgery—for example, if it's wrapped around major veins or arteries.

If cancer has spread to lymph nodes, bile ducts, or organs, it may not be possible to remove all the cancer with a single operation.

In some cases, systemic drug therapy is given before surgery to reduce the amount of cancer. This can make the tumor easier to remove with surgery.

For systemic drug therapy options given before and after surgery, see **Guide 3**.

Guide 3
Systemic drug therapy options before surgery and after surgery

Before surgery	Capecitabine with Oxaliplatin Durvalumab with Gemcitabine and Cisplatin FOLFOX (Leucovorin, 5-fluorouracil [5-FU], Oxaliplatin) Gemcitabine with Capecitabine Gemcitabine with Cisplatin Gemcitabine with Cisplatin and Paclitaxel
After surgery	Capecitabine (preferred) 5-FU Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin

Treatment after surgery

It's not always possible to remove all the cancer during surgery. After surgery, therapy options include:

- Systemic drug therapy (preferred)
- Clinical trial (preferred)
- Chemoradiation
- Chemotherapy given before or after chemoradiation (less common)

Therapy after surgery kills any cancer cells that surgery might have left behind. It also helps prevent the return of cancer (recurrence).

Preferred treatments have the most evidence that they work and may be safer than other therapies. If you're having systemic drug therapy after surgery, then capecitabine is the preferred option. For after-surgery systemic drug therapy options, see **Guide 3**.

Observation (or watch-and-wait) might be an option in some cases.

Surveillance

After completing treatment for removable disease, you'll begin surveillance. Surveillance is a period of testing to watch for signs that cancer has returned. It includes tests for cancer antigen (CA) 19-9 and carcinoembryonic antigen (CEA). It also includes multiphasic CT/MRI (see Chapter 2) of the chest and the abdomen/hip area every 3 to 6 months for 2 years, then every 6 to 12 months for up to 5 years, or as needed.

Unremovable tumor

Some gallbladder tumors can't be removed with surgery. Before deciding what treatment you'll have, your health care team might do biomarker and genetic tests to learn more about your cancer.

If your cancer has microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR) or you have a family history of *BRCA1* or *BRCA2* mutations, then you might be referred to a genetic counselor.

Treatment options

Treatment options depend on the size, spread, and location of the cancer and what's available at your hospital or treatment center. NCCN experts recommend being treated at a center that has experience with gallbladder cancer.

Treatment options for unremovable tumors include:

- Systemic drug therapy (preferred)
- Clinical trial (preferred)
- Palliative radiation therapy
- Supportive care

A preferred treatment has the most evidence it works better and may be safer than other therapies. Systemic drug therapy or a clinical trial are the preferred treatment options for unremovable tumors.

Other options include palliative radiation therapy and best supportive care. When radiation is used to reduce symptoms caused by the cancer or to extend life, it's called palliative radiation. Supportive care is treatment to relieve the side effects of cancer and its treatment.

For systemic drug therapy options, see **Guide 4**.

Metastatic cancer

Metastatic gallbladder cancer is cancer that has spread to distant sites in the body, further away from the gallbladder. A biopsy and biomarker testing will be done before treatment is started.

Treatment is based on the size and location of the cancer. Treatment options for metastatic gallbladder cancer include:

- Systemic drug therapy (preferred)
- Clinical trial (preferred)
- Supportive care

Guide 4 Systemic therapy options for unremovable tumors

Preferred therapies	Durvalumab with Gemcitabine and Cisplatin Pembrolizumab with Gemcitabine and Cisplatin
Other recommended therapies	5-fluorouracil (5-FU) Capecitabine Capecitabine with Oxaliplatin FOLFOX (Leucovorin, 5-FU, Oxaliplatin) Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin Gemcitabine with Cisplatin and Paclitaxel Gemcitabine with Oxaliplatin Gemcitabine with Paclitaxel Gemcitabine
Therapies used in certain cases	Targeted therapy (see Guide 2)

Systemic drug therapy or a clinical trial are the preferred choices. Supportive care is used with other treatments to improve quality of life. For systemic drug therapy options, see **Guide 5**.

Cancer progression

When unremovable cancer continues to grow (progresses) during or after systemic therapy, then your medical oncologists might try a different systemic drug therapy. For systemic drug therapy options, see **Guide 5**.

For disease progression, the preferred treatment is FOLFOX. FOLFOX refers to a combination of chemotherapy drugs that includes 5-fluorouracil (5-FU), leucovorin, and oxaliplatin.

If your tumor has a high number of mutations or a specific gene mutation, such as *NTRK*, MSI-H/dMMR, *FGFR2*, *IDH1*, or *BRAF* V600E, then you might receive drug therapy that targets the mutation (see **Guide 2**).

“
Hope is a huge part of the cancer process. Because if you lose that, you don't have the inner strength you need to fight.”

Guide 5 Systemic therapy options for metastatic cancer or disease progression	
Preferred therapy	FOLFOX (Leucovorin, 5-FU, oxaliplatin)
Other recommended therapy	FOLFIRI (leucovorin, 5-FU, irinotecan)
Therapies used in certain cases	Targeted therapy (see Guide 2) Nivolumab

Key points

- Gallbladder cancer starts inside the gallbladder and grows through the layers of the gallbladder wall.
- Gallbladder cancer may be found by chance during surgery, during pathology review, or on an imaging test.
- When a tumor blocks fluid from draining from bile ducts, it can cause jaundice.
- Treatment for gallbladder cancer is initially based on whether the cancer can or can't be removed with surgery.
- Treatment for gallbladder cancer may include surgery, systemic drug therapy, a clinical trial, chemoradiation, palliative radiation therapy, and supportive care.
- Systemic drug therapy or a clinical trial are the preferred treatment options for unremovable or metastatic gallbladder cancer.
- If your tumor has a high number of mutations or a specific gene mutation, such as *NTRK*, microsatellite insufficiency-high (MSI-H)/mismatch repair deficient (dMMR), *FGFR2*, *IDH1*, or *BRAF* V600E, then you might receive drug therapy that targets the mutation.

Questions to ask

- What are the chances my cancer will return after treatment?
- Are there any alternative treatment options for my cancer?
- I would like a second opinion. Is there someone you can recommend?

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Bile duct cancer inside the liver

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5 Bile duct cancer inside the liver

Cancers can occur inside the bile ducts of the liver. This is called intrahepatic bile duct cancer. This chapter describes treatment for these tumors.

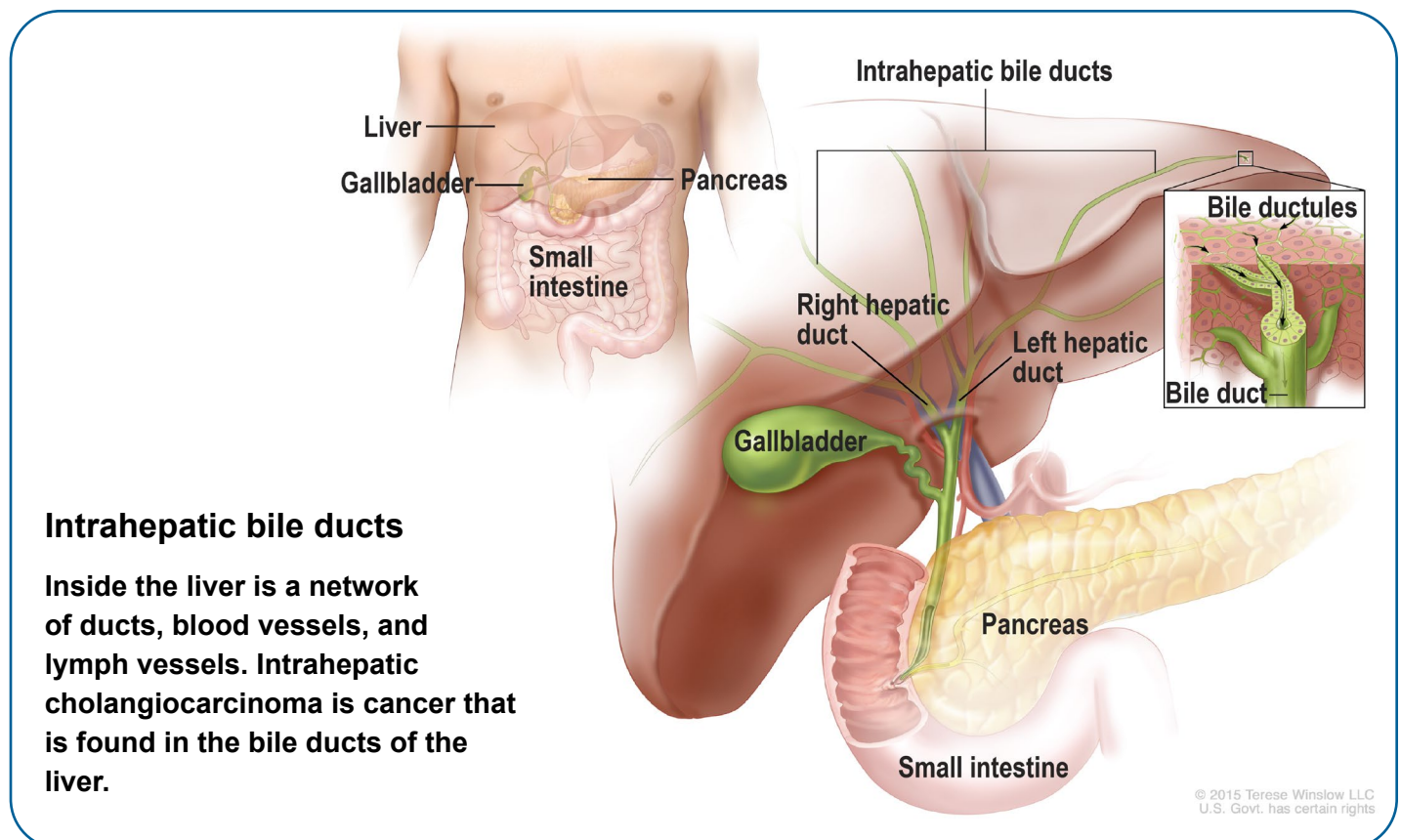
Intrahepatic bile duct cancer is a rare cancer that forms in the bile ducts inside the liver. Bile is produced and released by cells in the liver. It travels through the bile ducts from the liver to the gut.

Epithelial cells (cholangiocytes) line the bile ducts. Abnormal growth of these cells can block the bile duct.

Tumors can be found in the intrahepatic bile ducts, regardless of size. Treatment for intrahepatic bile duct cancer aims to prevent or slow the spread of cancer.

Testing

Once it's confirmed that the isolated tumor found on imaging isn't liver cancer (hepatocellular carcinoma), then you'll have blood tests, imaging scans, and scoping procedures.



Blood tests will measure cancer antigen (CA) 19-9, carcinoembryonic antigen (CEA), alpha-fetoprotein (AFP), and liver function. Your care team will also check for a past or current viral hepatitis infection. Hepatitis is a risk factor of bile duct cancer. Some cancer treatments can wake up (or reactivate) the hepatitis virus. If this happens, it can harm the liver.

Imaging tests may include a CT of the chest, a multiphasic CT of the abdomen and pelvis, and a multiphasic MRI of the abdomen and pelvis. Imaging of these areas shows the size of the cancer, if it has spread to the liver, or if it has invaded the lymph nodes or blood vessels.

You'll meet with a surgeon to discuss if:

- You'll have a biopsy
- You are healthy enough for surgery or a liver transplant
- The cancer can be removed with surgery

Sometimes, intrahepatic bile duct cancer can be mistaken for stomach, small intestine, or colon cancer that has spread to the liver. Scoping procedures, such as an upper gastrointestinal (GI) endoscopy and a colonoscopy, may be done to check if cancer has spread to the liver rather than occurring in the bile ducts.

You might be referred to a hepatologist, a doctor who specializes in the care of the liver, biliary tract, gallbladder, and pancreas.

Treatment

Treatment is based on if the tumor:

- Can't be removed with surgery
- Has spread to other parts of the body

If the cancer is unremovable or has spread to other organs, then microsatellite instability (MSI)/mismatch repair (MMR) testing and other biomarker testing will be done.

People with microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR) tumors or a family history that suggests *BRCA1* or *BRCA2* mutations might have genetic testing and be referred to a genetic counselor.

Removable tumor

Some bile duct cancers inside the liver can be removed with surgery. The goal of surgery is to remove the tumor without leaving any cancer in the surgical margin.

Because this type of cancer occurs in the bile ducts inside the liver, surgery may include removal of a section of the liver or the entire liver.

During removal, some lymph nodes might be removed and checked for cancer. Your surgeon will also look for cancer in nearby veins, arteries, and tissues.

The extent of surgery depends on the tumor size and location. If cancer has spread beyond the nearby lymph nodes or to distant sites, treatment other than surgery may be offered.

Treatment after surgery

Treatment after surgery depends on the risk of the tumor returning and/or if not all the tumor could be removed during surgery.

- In a negative (or clear) margin, no cancerous cells are found.
- In a positive margin, there are still cancer cells remaining.

After-surgery systemic drug therapies can be found in **Guide 6**.

No cancer remains

If no cancer remains in the margin, the preferred treatment options are systemic drug therapy or a clinical trial. A preferred treatment has the most evidence it works better and may be safer than other therapies. After treatment, you'll begin surveillance.

Observation (also called watch-and-wait) might be considered instead of systemic drug therapy.

Visible cancer remains

If visible cancer remains, then treatment follows the recommendations for unremovable cancer. See the “Unremovable tumor” section on the next page for more information.

Microscopic cancer remains

In some cases, cancer remains but can only be seen with a microscope. For these tumors, treatment options include systemic drug therapy (preferred), clinical trial (preferred), or chemoradiation. Chemotherapy might be given before or after chemoradiation.

Surveillance

After treatment is finished, you'll begin surveillance. This is a period of testing to watch for cancer recurrence. During this time, you might have CT and MRI scans and a chest CT every 3 to 6 months for 2 years, then every 6 to 12 months for up to 5 years, or as needed.

Be sure to keep any follow-up visits with your care team and not miss any imaging test appointments.

Guide 6

After-surgery systemic therapy options for removable bile duct cancer inside the liver

Preferred therapy	Capecitabine
Other recommended therapies	5-fluorouracil (5-FU) FOLFOX (Leucovorin, 5-FU, Oxaliplatin) Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin

Unremovable tumor

Some tumors can't be completely removed with surgery. This may be based on its location or the extent of growth.

In these cases, treatment options include:

- Systemic drug therapy
- Clinical trial
- Chemoradiation
- Locoregional therapy, such as radiation therapy or directed therapy
- Supportive care

Treatment options are based on your preferences and your care team's recommendations. Supportive care is always available. You may also try to enroll in a clinical trial.

Locoregional therapy focuses on a specific area of the body. Chemoradiation and systemic drug therapy are also options. For specific systemic drug therapy options, see **Guide 7**.

Guide 7
Systemic drug therapies for unremovable and metastatic bile duct cancer inside the liver

Preferred therapies	Durvalumab with Gemcitabine and Cisplatin Pembrolizumab with Gemcitabine and Cisplatin
Other recommended therapies	5-fluorouracil (5-FU) Capecitabine Capecitabine with Oxaliplatin FOLFOX (Leucovorin, 5-FU, Oxaliplatin) Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin Gemcitabine with Albumin-bound Paclitaxel Gemcitabine with Oxaliplatin Gemcitabine
Used in some cases	Targeted therapy (see Guide 7)

Metastatic cancer

Metastatic bile duct cancer is cancer that has spread to other parts of the body away from the bile ducts.

Treatment options for metastatic bile duct cancer inside the liver (intrahepatic) include:

- Systemic drug therapy (preferred)
- Clinical trial (preferred)
- Locoregional therapy, such as radiation therapy or arterially directed therapy
- Supportive care

For specific systemic drug therapy options, see **Guide 7**.

Cancer progression

If unremovable or metastatic intrahepatic bile duct cancer keeps growing (progressing) during or after systemic drug therapy, then FOLFOX is the preferred next treatment.

If your tumor has a high number of mutations or a specific gene mutation, such as *NTRK*, MSI-H/dMMR, *FGFR2*, *IDH1*, or *BRAF* V600E, then you might receive drug therapy that targets the mutation.

Guide 8

Systemic drug therapies for progression of bile duct cancer inside the liver

Preferred therapy	FOLFOX (Leucovorin, 5-fluorouracil [5-FU], Oxaliplatin)
Other recommended therapies	FOLFIRI (Leucovorin, 5-FU, Irinotecan) Gemcitabine
Therapies used in certain cases	Dabrafenib (Tafinlar) Entrectinib (Rozlytrek) Futibatinib (Lytgobi) Ivosidenib (Tibsovo) Larotrectinib (Vitrakvi) Nivolumab (Opdivo) Pemigatinib (Pemazyre) Pertuzumab (Perjeta) Pralsetinib (Gavreto) Regorafenib (Stivarga) Selpercatinib (Retevmo) Trametinib (Mekinist) Trastuzumab (Herceptin) or Trastuzumab substitutes (biosimilars), such as Kanjinti, Ogivri, Hersuma, Ontruzant, and Trazimera

Enrolling in a clinical trial may also be an option.

Specific systemic drug therapy options for intrahepatic bile duct cancer that's progressing are listed in **Guide 8**.

Key points

- Intrahepatic cholangiocarcinoma is a cancer found in bile ducts inside the liver. It's also called intrahepatic bile duct cancer.
- Treatment is based on if the cancer can be removed with surgery, can't be removed with surgery, or has spread to other parts of the body (metastatic) as well as the risk of the cancer returning.
- Cancer of bile ducts inside the liver can spread to the surrounding blood vessels. From there, it can spread throughout the liver and structures outside the liver, such as the lining that surrounds the abdominal organs.
- Some mutations, such as *NTRK* and *RET* gene fusions, microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR) mutations, or *FGFR2*, *IDH1*, or *BRAF* V600E gene mutations, can be targeted with specific therapies.
- Supportive care offers symptom relief and can be received with other therapies.

Questions to ask

- What are the chances my cancer will return after treatment?
- I would like a second opinion. Is there someone you can recommend?
- What type of surgery do you recommend and why?
- What happens if, during surgery, you find you can't remove the tumor?



**Let us know what
you think!**

**Please take a moment to
complete an online survey about
the NCCN Guidelines for Patients.**

[NCCN.org/patients/response](https://www.nccn.org/patients/response)

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Bile duct cancer outside the liver

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6 Bile duct cancer outside the liver

Extrahepatic bile ducts are small tubes that carry bile outside the liver. Some cancers are found in the common hepatic duct or the common bile duct. Learn more about these bile duct cancers that can develop outside the liver.

Extrahepatic bile ducts are small tubes that carry bile outside the liver. (Extrahepatic means outside the liver.) The ducts are named according to their location.

- **Common hepatic duct (hilum region)** – The section above the cystic duct that connects to the liver.

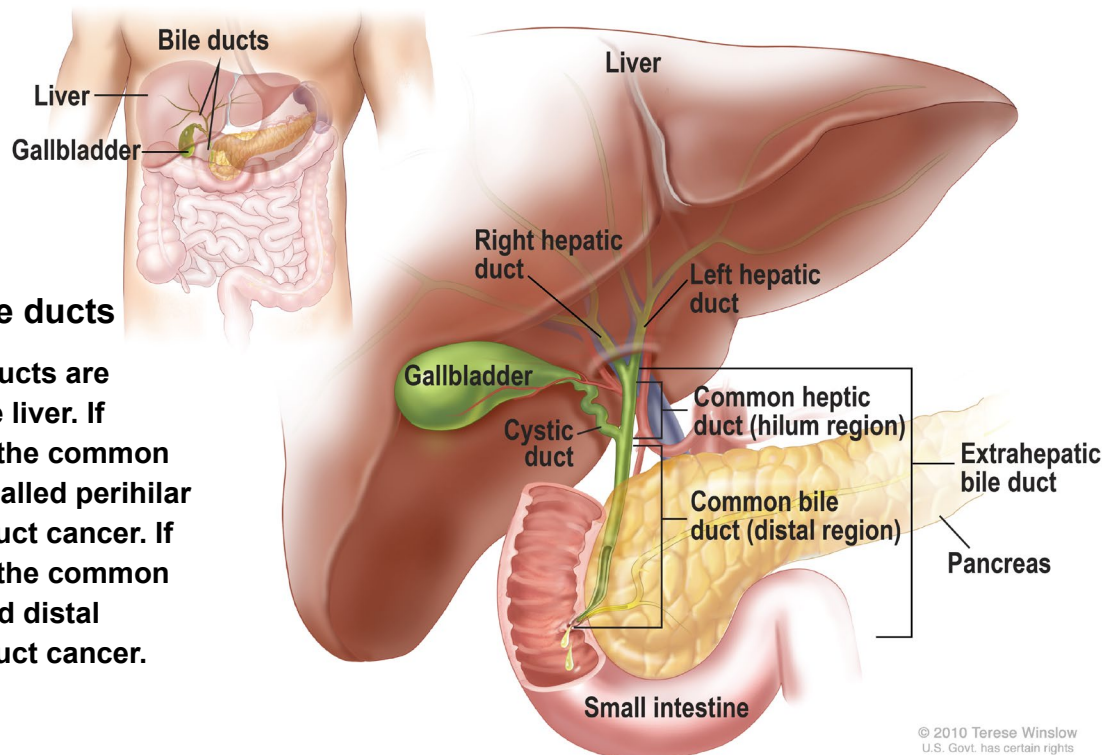
- **Common bile duct (distal region)** – The section below the cystic duct that connects to the small intestine.
- **The perihilar bile duct** – The duct that starts where the right and left hepatic ducts join outside the liver and form the common hepatic duct. It ends where the cystic duct from the gallbladder joins to form the common bile duct.

Testing

Bile duct cancer outside the liver might be suspected if you have pain, jaundice, abnormal results on liver function tests, or a blockage or tumor found on imaging tests. If so, you'll have further imaging tests and blood tests.

Extrahepatic bile ducts

Extrahepatic bile ducts are located outside the liver. If cancer is found in the common hepatic duct, it is called perihilar extrahepatic bile duct cancer. If cancer is found in the common bile duct, it is called distal extrahepatic bile duct cancer.



Imaging tests

Imaging tests may include a chest CT along with a CT or MRI of the abdomen and pelvis. Imaging this area allows your care team to see the size of the cancer, if it has spread to the liver, or if it has invaded the lymph nodes or blood vessels.

You may also have a test called magnetic resonance cholangiopancreatography (MRCP) to see if the bile ducts are blocked. This will be done during an MRI scan.

Blood tests

You might have blood tests to measure cancer antigen (CA) 19-9, carcinoembryonic antigen (CEA), liver function, and serum IgG4.

Serum IgG4 is used to rule out autoimmune cholangitis or other IgG4-related disease. Cholangitis is an inflammation of the bile duct. This disease of the immune system may be chronic and affect the liver and biliary tract.

Other procedures

Sometimes, an endoscopic ultrasound is done to get a closer look at the bile ducts.

Treatment

Treatment is based on whether the tumor:

- Can be removed with surgery
- Can't be removed with surgery
- Spread to other parts of the body (metastatic)

Removable tumor

Before receiving any treatment, you might have a staging laparoscopy or exploratory surgery to gain knowledge about the amount and location of your cancer.

Afterward, your treatment team will discuss whether surgery is safe for you and whether the cancer can be removed. This is called a multidisciplinary review.

You may have biliary drainage to drain fluid from the biliary tract before surgery. During surgery, the bile duct and nearby lymph nodes are removed.

Distal tumors

Distal tumors are found in the common bile duct that passes through the pancreas. If the tumor has invaded the pancreas, then a Whipple procedure might be needed.

A Whipple procedure is a surgery that removes the head of the pancreas, the gallbladder, the first part of the small intestine, part of the bile duct, and often part of the stomach.

Klatskin tumors

Klatskin tumors are found in the upper part of the common bile duct closest to the liver. Surgery to remove part of the liver is the likely treatment for tumors in this area.

Treatment after surgery

Treatment after surgery depends on the risk of the tumor returning and/or if not all the tumor could be removed. The goal is to kill any remaining microscopic cancer cells.

After-surgery therapy options include:

- Systemic drug therapy (preferred)
- Clinical trial (preferred)
- Chemoradiation (chemotherapy might be given before or after chemoradiation)
- Observation

Preferred treatments have the most evidence they work better and may be safer than other therapies. Specific after-surgery systemic drug therapy options are listed in **Guide 9**.

No cancer remains

A surgical margin that’s negative for cancer means no remaining cancer cells are found.

If no cancer remains and no cancer is found in the regional lymph nodes, or if cancer is found in the original location, treatment options include systemic drug therapy (preferred), clinical trial (preferred), chemoradiation, or observation (also called watch-and-wait). For specific systemic drug therapy options, see **Guide 9**.

After treatment, you’ll begin surveillance.

Guide 9

After-surgery systemic drug therapies for removable bile duct cancer outside the liver

Preferred therapy	Capecitabine
Other recommended therapies	5-fluorouracil (5-FU) FOLFOX (Leucovorin, 5-FU, Oxaliplatin) Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin

Visible cancer remains

A surgical margin that's positive for cancer means that some cancer remains, and it can be seen without a microscope. If visible cancer remains, then treatment follows the recommendations for unremovable cancer (see the section, "Unremovable tumor").

Microscopic cancer remains

If cancer remains in the margin but can only be seen with a microscope or if it's found in nearby lymph nodes, then treatment options include systemic drug therapy (preferred), clinical trial (preferred), or chemoradiation. Chemotherapy might be given before or after chemoradiation.

After treatment, you'll begin surveillance.

Surveillance

Surveillance is a period of testing to monitor for the return of cancer. During this time, you'll have imaging tests every 3 to 6 months for 2 years, then every 6 to 12 months for up to 5 years, or as needed.

Be sure to keep any follow-up visits with your care team and appointments for imaging tests.

Unremovable tumor

Before receiving any treatment, you'll be evaluated to see if surgically removing the tumor might be an option or if you're able to have a liver transplant.

If a liver transplant is an option, then you'll be referred to a specialized transplant center before a biopsy is done. Requirements for a liver transplant are explained in *Chapter 3: Types of treatment*.

Liver transplant

A liver transplant is only for Klatskin tumors, but not everyone is eligible for this treatment. It requires an early visit to a specialized center that will perform the operation. You'll have treatment and operative staging before the actual transplant.

Treatment

If a liver transplant is not an option, there are a variety of treatment options for unremovable bile duct cancers outside the liver. These include:

- Systemic drug therapy
- Clinical trial
- Chemoradiation
- Combination of chemotherapy and chemoradiation
- Palliative radiation therapy
- Supportive care

Ask your care team why one treatment might work better in your situation and what to expect from treatment.

Systemic drug therapy

If you have jaundice, you may have biliary drainage before beginning systemic drug therapy.

The preferred systemic drug therapy is durvalumab (or pembrolizumab) with gemcitabine and cisplatin. There are also many other recommended treatments. For all systemic drug therapy options, see **Guide 10**.

Metastatic cancer

Metastatic bile duct cancer has spread to parts of the body further away from the bile ducts.

Fluid may block the bile ducts, causing jaundice. If you have jaundice, the blocked bile duct will first be treated and drained.

A biopsy may be done to confirm that the cancer is bile duct cancer (and not another type).

Supportive care is always an option. You may also consider trying to enroll in a clinical trial. For specific systemic drug therapy options, see **Guide 10**.

Guide 10
Systemic drug therapies for unremovable and metastatic bile duct cancer outside the liver

Preferred therapies	Durvalumab with Gemcitabine and Cisplatin Pembrolizumab with Gemcitabine and Cisplatin
Other recommended therapies	Gemcitabine with Cisplatin (preferred) 5-fluorouracil (5-FU) Capecitabine Capecitabine with Oxaliplatin FOLFOX (Leucovorin, 5-FU, Oxaliplatin) Gemcitabine Gemcitabine with Capecitabine Gemcitabine with Cisplatin and Paclitaxel Gemcitabine with Paclitaxel Gemcitabine with Oxaliplatin
Therapy used in certain cases	Targeted therapy (see Guide 7)

Cancer progression

If unremovable or metastatic extrahepatic bile duct cancer continues growing (progressing) during or after systemic drug therapy, then FOLFOX is the preferred next treatment. FOLFOX is a combination of chemotherapy drugs that includes 5-fluorouracil (5-FU), leucovorin, and oxaliplatin.

If the tumor has a high number of mutations or a specific gene mutation, such as *NTRK*, microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR), *FGFR2*, *IDH1*, or *BRAF* V600E, then you might receive drug therapy that targets the mutation.

Enrolling in a clinical trial may also be an option.

For specific systemic drug therapy options, see **Guide 11**.

Key points

- Extrahepatic bile ducts are small tubes that carry bile outside the liver. They include the common hepatic duct and the common bile duct.
- Extrahepatic bile duct cancer is a rare cancer found in bile ducts outside the liver.
- There are 2 types of extrahepatic bile duct cancers: perihilar and distal.
- Treatment is based on whether the cancer can be removed with surgery, can't be removed with surgery, or has spread to other parts of the body (metastatic), as well as the risk of recurrence.
- If your tumor has a high number of mutations or a specific gene mutation, such as *NTRK*, microsatellite instability-high (MSI-H)/mismatch repair deficient (dMMR) mutations, *FGFR2*, *IDH1*, or *BRAF* V600E, then you might receive drug therapy that targets the mutation.

Guide 11

Systemic drug therapies for progression of bile duct cancer outside the liver

Preferred therapy	FOLFOX (Leucovorin, 5-FU), Oxaliplatin)
Other recommended therapies	FOLFIRI (Leucovorin, 5-FU, Irinotecan)
Therapies used in certain cases	Targeted therapy (see Guide 7) Nivolumab Lenvatinib with Pembrolizumab

Questions to ask

- What are the chances my cancer will return after treatment?
- I would like a second opinion. Is there someone you can recommend?
- What are the side effects of this treatment?

What's next?

There's more to cancer treatment than just trying to cure it. There's also treating the person with the cancer by easing pain or distress. This is called supportive care, and it's explained in the next chapter.

7

Supportive care and other assistance

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There are many forms of support and assistance available to you. This chapter describes some of these forms of assistance. Consider following the recommendations below.

Supportive care

Supportive care is an important part of cancer care. The goal is to improve your quality of life during and after cancer treatment. Supportive care is for everyone with cancer and their families, not just for those at the end of life. It's also known as palliative care.

Supportive care includes a wide range of services. Supportive care prevents or manages the symptoms of cancer and the side effects of treatment, like pain and cancer-related fatigue. It also addresses the mental, social, and spiritual concerns faced by people with cancer.

Supportive care provides help with additional needs, such as:

- Making treatment decisions
- Coordinating your care
- Paying for care
- Planning for advance care and end of life



Consider quality of life

“Quality of life” is a term used often in cancer care. It refers to a person’s overall enjoyment of life, including their sense of well-being and ability to participate in regular activities.

For some people, aggressive cancer treatment may extend their life but reduce their quality of life. That’s one reason why quality of life should be an important consideration when making decisions about cancer treatment.

Anxiety and depression

Many people with gallbladder or bile duct cancer have symptoms of distress, such as anxiety and depression. You may feel anxious during testing, or you may experience depression during a hard part of treatment or because your life is not the same as it was before cancer.

Tell your treatment team if you’re experiencing these symptoms so you can get help.

Help can include support groups, talk therapy, or medication. At your cancer center, patient navigators, social workers, and other experts can help. Some people also feel better by exercising, talking with loved ones, or relaxing.

Support groups

Many people diagnosed with cancer find support groups to be helpful. A support group provides the opportunity to talk with others who are going through, or have been through, similar experiences.

Support groups often include people at different stages of treatment. Some people may be newly diagnosed, while others may be finished with treatment. If your hospital or community doesn't have support groups for people with cancer, have a look at the online resources listed in the "Other resources" section of this guide.



Things to think about when making treatment decisions

Be sure to weigh all your options. There are no "correct" answers. The right decision is the one that's best for you. Consider:

Your personal preferences	vs.	Your health care providers' recommendations
Having definitive treatment	vs.	Keeping other treatment options open
Length of life	vs.	Quality of life
Traveling for treatment	vs.	Staying close to home and family
Having more treatment	vs.	Having more side effects
Having standard treatment now, which is covered by your health plan	vs.	Waiting for specialized treatment, which requires your health plan's approval



Report any unusual feelings of sadness, loss of interest in activities, anxiety, and sleep problems to your doctor. Many people experience these feelings, and they should not go untreated.”

Financial concerns

The financial cost of cancer can be overwhelming. As a result, many people with cancer and their loved ones struggle with the cost of treatment.

To make things worse, you may miss work during treatment or become unemployed. You may have trouble paying for or getting medicines. Or you may have too little or no health insurance.

If you struggle to pay for food, housing, treatment, follow-up care, and other expenses or you have difficulty getting to appointments, talk with your care team’s social worker, patient navigator, and hospital financial services staff. They can help you find financial support and transportation options.

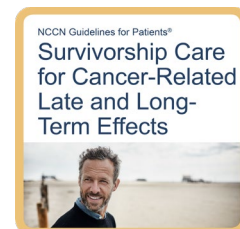
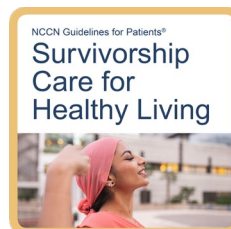
You can also talk to your treatment team about work, health insurance, or money problems. Your team can include information in your treatment plan to help you manage your finances and medical costs. If your doctors and care providers don’t talk about how to pay for treatment, it’s okay for you to ask them about it first.

Survivorship

Survivorship focuses on the health and well-being of a person with cancer from diagnosis until the end of life. This includes the physical, mental, emotional, social, and financial effects of cancer that begin at diagnosis, continue through treatment, and arise afterward.

Survivorship also includes concerns about follow-up care, late effects of treatment, cancer recurrence, and quality of life. Support from family members, friends, and caregivers is also an important part of survivorship.

Read more about survivorship in *NCCN Guidelines for Patients: Survivorship Care for Healthy Living* and *Survivorship Care for Cancer-Related Late and Long-Term Effects*, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Advance care planning

When cancer is diagnosed at an advanced stage or keeps progressing despite all treatment efforts, it may be time to consider what lies ahead. Even when cancers are curable, talking about future scenarios should begin when you start treatment. This exploration of what’s important to you is called advance care planning.

Advance care planning is for everyone, not just for those who are very sick. Advance care

7 Supportive care and other assistance

planning means deciding what care you would want if you become unable to make medical decisions for yourself. It's about making sure that your wishes are understood and respected.

The focus is on you receiving the best possible care at the end of your life. Patients with incurable cancer can set up an advance care plan early to help them feel less stressed and better able to cope with their condition.

The advance care planning process starts with an open and honest discussion with your care team about your prognosis, what you may experience in the coming months, and the medications or therapies that may give you the best quality of life.

Quality of life refers to a person's overall enjoyment of life, including their sense of well-being and ability to participate in their usual activities. This discussion should include important people in your life, such as your spouse or partner and family members or

friends, who are likely to be with you at the end.

Make your wishes clear. It's important that everyone understands the goals of your care and your personal wishes about what should—and should not—be done. You can decide if there's a point where you might want to stop cancer treatment. You can also decide what treatments you would want for symptom relief.

Once you've made these decisions, you'll fill out a legal document that explains what you want to be done if you aren't able to tell your care team yourself. This document is called an advance directive. Your health care providers are required to follow the instructions in an advance directive when you're too ill to make decisions about your care.

Tell your care team and family about your advance directive and its contents. Give a copy of your advance directive to all your doctors. Make sure you give a copy to anyone you've authorized to make decisions on your behalf (health care proxy).

Many people diagnosed with cancer find support groups to be helpful.

A support group provides the opportunity to talk with others who are going through, or have been through, similar experiences.



7 Supportive care and other assistance

If your family or loved ones disagree with your plan, speak to your care team. Sometimes they or other specialists can help you and your family navigate these difficult conversations.

You can change your advance care plan at any time. Frequent conversations with your care team can help.

End-of-life considerations

End-of-life care provides medical, psychological, and spiritual support for people who are close to the end of life as well as those who love them. The goal is comfort, not a cure. It may also be called comfort care or hospice.

Note that hospice is a special kind of end-of-life care. Hospice refers specifically to an insurance benefit for people whose life expectancy is 6 months or less. Hospice supports those at the end of life by bringing in additional care providers and resources, such as home care.

The goal of end-of-life care is to give people the best life possible with the time they have left. Care can be provided in your home, a hospice facility, or even the hospital. A major goal is to keep you pain free and make sure that you can leave this world comfortably and with dignity.

Hospice doctors, nurses, social workers, and chaplains are experts in helping patients work through the spiritual and emotional challenges of coping with the end of life.

Providing support for family members is a key part of hospice care. Most programs offer counseling and support groups for family members, including support after the patient

has died. This is referred to as bereavement. It can be very comforting to know that your loved ones will have that kind of support after you're gone.

Key points

- A support group provides the opportunity to talk with others who've been through similar experiences.
- For help with financial support and transportation options, talk with your care team's social worker, patient navigator, and hospital financial services staff.
- Advance care planning is done to ensure that your end-of-life wishes are understood and respected.

Questions to ask

- Who can I talk to about help with housing, food, and other basic needs?
- What assistance is available for transportation, childcare, and home care?
- Who can tell me what my options for health insurance are and assist me with applying for insurance coverage?
- How much will I have to pay for my treatment? What help is available to pay for medicines and other treatment?
- How can I connect with others and build a support system?

8

Other resources

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Want to learn more? Here's how you can get additional help.

What else to know

This guide helps you know your options so you can make informed decisions and improve your cancer care. But it's not the only resource that you have.

Ask for as much information and help as you need. Many people are interested in learning more about:

- The details of their treatment and its side effects
- Being a part of a care team
- Getting financial help
- Finding a cancer care professional who's an expert in gallbladder and bile duct cancers
- Coping with other health problems

What else to do

Your health care center can help you with next steps. It often has on-site resources to help meet your needs and find answers to your questions. Health care centers can also inform you of resources in your community.

In addition to help from your providers, the resources listed in the next section provide support for many people like yourself.

Where to get help

Look through the list below and visit the provided websites to learn more about these organizations.

CancerCare
cancercares.org

Cancer Hope Network
cancerhopenetwork.org

Cholangiocarcinoma Foundation
cholangiocarcinoma.org

Gallbladder Cancer Foundation
gallbladdercancer.org

Imerman Angels
imermanangels.org

TargetCancer Foundation
targetcancer.org

Triage Cancer
triagecancer.org

Questions to ask

- How can I find transportation to and from appointments?
- Is there a way to combine appointments?
- How can I find someone to stay with me after surgery?



Words to know

bile

A yellowish-brown fluid made by the liver that helps to digest food.

bile duct

A small, tube-shaped structure that drains digestive fluid (bile) from the liver.

bilirubin

A yellowish-brown substance that is part of a digestive fluid called bile.

biopsy

A procedure that removes fluid or tissue samples to be tested for a disease.

cancer antigen 19-9 (CA 19-9)

A protein made by certain cancer cells found in blood.

carcinoembryonic antigen (CEA)

A protein that is present when some types of cancer form.

catheter

A tube-shaped device used to give treatment or drain fluid from the body.

chemoembolization

Treatment that blocks the blood supply to the tumor(s) and injects a chemotherapy mixture into the tumor.

chemoradiation

Treatment with a combination of chemotherapy and radiation therapy.

chemotherapy

Drugs that kill fast-dividing cells throughout the body, including cancer cells and some normal cells.

cholangiography

An x-ray of the bile ducts.

colonoscopy

A procedure to check inside the colon with a device guided through the anus.

CT

A test that combines many x-rays to make pictures of the inside of the body.

contrast

A substance put into your body to make clearer pictures during imaging tests.

directed therapy

Treatment using particles, chemotherapy, or radioactive beads injected directly into the blood vessels that supply the tumor(s). Also called arterially directed therapy.

embolization

Treatment that blocks the blood supply to tumors with beads inserted into an artery.

endoscope

A thin, tube-shaped device passed through a natural opening used to view inside the body.

endoscopic retrograde**cholangiopancreatography (ERCP)**

A procedure using an endoscope and x-rays to take videos of pancreatic and bile ducts.

endoscopic ultrasound

A procedure that takes detailed pictures of the digestive tract and nearby tissue with a device passed through a natural opening.

external beam radiation therapy (EBRT)

Radiation therapy received from a machine outside the body.

fine-needle aspiration

Removal of a tissue sample with a thin needle.

gallbladder

A small organ that holds digestive fluid (bile) from the liver.

gastroenterologist

A health care provider who's an expert in digestive diseases.

immunotherapy

Treatment with drugs that help the body find and destroy cancer cells.

interventional radiologist

A health care provider who's an expert in imaging tests and using image-guided tools to perform minimally invasive techniques to diagnose or treat disease.

jaundice

Yellow-colored skin or whites of the eyes due to a buildup of bilirubin in the body.

laparoscopy

Use of a thin tool inserted through a cut made into the belly area (abdomen).

lymph

A clear fluid containing white blood cells.

lymph node

Small, disease-fighting structures located throughout the body.

magnetic resonance**cholangiopancreatography (MRCP)**

A test that uses radio waves and powerful magnets to take pictures of the pancreas and bile ducts.

MRI

A test that uses radio waves and powerful magnets to take pictures of the inside of the body.

metastasis

Spread of cancer cells from the first (primary) tumor to a new site.

microsatellite instability (MSI)

Errors made in small, repeated DNA parts during the copy process because of an abnormal repair system.

microsatellite instability-high (MSI-H)

Mutations in 30% or more microsatellites.

minimally invasive procedure

A procedure that uses small incisions or a tool placed into an opening of the body to reduce damage to body tissue.

mutation

An abnormal change.

oncologist

A health care provider who's an expert in the treatment of cancer.

pathologist

A health care provider who's an expert in examining tissue and cells to find disease.

percutaneous transhepatic cholangiography (PTC)

A procedure to view the biliary tract with an x-ray and possibly place a catheter to drain fluid from the biliary tract.

PET

A test that uses radioactive material to see the shape and function of body parts.

primary therapy

The main treatment used to rid the body of cancer.

prognosis

The likely course and outcome of a disease based on tests.

progression

The growth or spread of cancer after testing or treatment.

radiation therapy (RT)

Treatment that uses high-energy rays.

recurrence

Return of cancer after a cancer-free period.

side effect

An unhealthy or unpleasant physical or emotional response to treatment.

stereotactic body radiation therapy (SBRT)

Treatment with high-dose radiation in one or a few sessions. Also called classic radiotherapy.

supportive care

Health care that includes symptom relief but not cancer treatment. Also called palliative care.

negative margin

Tissue around the edge of a tumor removed during surgery that contains no cancer.

positive margin

Tissue removed during surgery that contains microscopic or visible cancer.

surgical oncologist

An expert in performing surgical procedures in cancer patients.

targeted therapy

Drugs that stop the growth process specific to cancer cells.

tumor marker

A substance found in body tissue or fluid that may be a sign of cancer.

ultrasound

A test that uses sound waves to take pictures of the inside of the body.

upper gastrointestinal (GI) endoscopy

A procedure that uses a device guided down the throat to look for cancer and other abnormalities in the linings of the esophagus, stomach, and upper parts of the small intestine.

NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Biliary Tract Cancers, Version 1.2026. It was adapted, reviewed, and published with help from the following people:

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NCCN Cancer Centers

For contact information, visit [NCCN.org/cancercenters](https://www.nccn.org/cancercenters).

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Philadelphia, Pennsylvania

Case Comprehensive Cancer Center/
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Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio

City of Hope National Medical Center
Duarte, California

Dana-Farber Cancer Institute
Boston, Massachusetts

Duke Cancer Institute
Durham, North Carolina

Fox Chase Cancer Center
Philadelphia, Pennsylvania

Fred & Pamela Buffett Cancer Center
Omaha, Nebraska

Fred Hutchinson Cancer Center
Seattle, Washington

Huntsman Cancer Institute at the University of Utah
Salt Lake City, Utah

Indiana University Melvin and Bren Simon
Comprehensive Cancer Center
Indianapolis, Indiana

Johns Hopkins Kimmel Cancer Center
Baltimore, Maryland

Mass General Brigham Cancer Institute
Boston, Massachusetts

Mayo Clinic Comprehensive Cancer Center
Phoenix/Scottsdale, Arizona
Jacksonville, Florida
Rochester, Minnesota

Memorial Sloan Kettering Cancer Center
New York, New York

Moffitt Cancer Center
Tampa, Florida

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Birmingham, Alabama

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Roswell Park Comprehensive Cancer Center
Buffalo, New York

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St. Louis, Missouri

St. Jude Children's Research Hospital/
The University of Tennessee Health Science Center
Memphis, Tennessee

Stanford Cancer Institute
Stanford, California

The Ohio State University Comprehensive Cancer Center -
James Cancer Hospital and Solove Research Institute
Columbus, Ohio

The UChicago Medicine Comprehensive Cancer Center
Chicago, Illinois

The University of Texas MD Anderson Cancer Center
Houston, Texas

UC Davis Comprehensive Cancer Center
Sacramento, California

UC San Diego Moores Cancer Center
La Jolla, California

UCLA Jonsson Comprehensive Cancer Center
Los Angeles, California

UCSF Helen Diller Family Comprehensive Cancer Center
San Francisco, California

University of Colorado Cancer Center
Aurora, Colorado

University of Michigan Rogel Cancer Center
Ann Arbor, Michigan

University of Wisconsin Carbone Cancer Center
Madison, Wisconsin

UT Southwestern Simmons
Comprehensive Cancer Center
Dallas, Texas

Vanderbilt-Ingram Cancer Center
Nashville, Tennessee

Yale Cancer Center/Smilow Cancer Hospital
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