



National Comprehensive
Cancer Network®

2026

NCCN Guidelines for Patients®

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

Pancreatic Cancer



Presented with support from



Available online at
[NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines)



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 Pancreatic Adenocarcinoma, Version 2.2026 — April 22, 2026.**

View the NCCN
Guidelines for
Patients free online:
[NCCN.org/
patientguidelines](https://www.nccn.org/patientguidelines)

Find an NCCN
Cancer Center
near you:
[NCCN.org/
cancercenters](https://www.nccn.org/cancercenters)

Learn how the
NCCN Guidelines
for Patients are
developed:
[NCCN.org/patient-
guidelines-process](https://www.nccn.org/patient-guidelines-process)

Connect with us



@NCCNorg



@NCCNVideo



NCCN



@NCCNorg

Supporters



NCCN Guidelines for Patients are supported by funding from the NCCN Foundation®

NCCN Foundation gratefully acknowledges the following corporate supporters for helping to make available these NCCN Guidelines for Patients: Ipsen Biopharmaceuticals, Inc.

NCCN independently adapts, updates, and hosts the NCCN Guidelines for Patients. Our corporate supporters do not participate in the development of the NCCN Guidelines for Patients and are not responsible for the content and recommendations contained therein.

Additional support is provided by

Terry and Wui-Jin Koh
In memory of Eric Werner



The Hirshberg Foundation for Pancreatic Cancer Research is focused on finding a cure for pancreatic cancer and empowering the patients and families whose lives are touched by this disease. Founded in 1997, the foundation funds groundbreaking scientific research, provides patient education and support, and sustains hope that this cancer will be eradicated once and for all. pancreatic.org

To make a gift, visit
NCCNFoundation.org/Donate

To learn more, visit online
NCCN.org/patientguidelines
or email
PatientGuidelines@NCCN.org

Contents

4	Chapter 1 About pancreatic cancer	49	Chapter 7 Surgery for primary treatment
8	Chapter 2 Testing for pancreatic cancer	60	Chapter 8 Other resources
18	Chapter 3 Types of treatment	64	Words to know
26	Chapter 4 Supportive care for cancer complications	67	NCCN Contributors
33	Chapter 5 Planning primary treatment	68	NCCN Cancer Centers
37	Chapter 6 Systemic therapy for primary treatment	70	Index

©2026 National Comprehensive Cancer Network, Inc. All rights reserved.

NCCN Guidelines for Patients and illustrations herein may not be reproduced in any form for any purpose without the express written permission of NCCN. No one, including doctors or patients, may use the NCCN Guidelines for Patients for any commercial purpose and may not claim, represent, or imply that the NCCN Guidelines for Patients that have been modified in any manner are derived from, based on, related to, or arise out of the NCCN Guidelines for Patients. The NCCN Guidelines are a work in progress that may be redefined as often as new significant data become available. NCCN makes no warranties of any kind whatsoever regarding its content, use, or application and disclaims any responsibility for its application or use in any way.

NCCN Foundation seeks to support the millions of patients and their families affected by a cancer diagnosis by funding and distributing NCCN Guidelines for Patients. NCCN Foundation is also committed to advancing cancer treatment by funding the nation's promising doctors at the center of innovation in cancer research. For more details and the full library of patient and caregiver resources, visit [NCCN.org/patients](https://www.nccn.org/patients).

National Comprehensive Cancer Network (NCCN) and NCCN Foundation
3025 Chemical Road, Suite 100, Plymouth Meeting, PA 19462 USA

1

About pancreatic cancer

- 5 What is pancreatic cancer?
- 5 What are the types of pancreatic cancer?
- 6 How is pancreatic cancer found?
- 6 What causes pancreatic cancer?
- 6 How is pancreatic cancer treated?
- 7 How can I get the best care?

1 About pancreatic cancer

This guide provides the latest information on testing, staging, and treatment of pancreatic cancer to help you make informed decisions with your care team. First, it's important to know what exactly pancreatic cancer is.

What is pancreatic cancer?

Pancreatic cancer is a disease that causes uncontrolled growth of cells in a large gland called the pancreas.

Pancreas

Sounds like PAN-kree-us.

The pancreas is deep inside of the body. It sits just below the liver and behind the stomach and spans across the body. The wider part of the pancreas, called the head, is on the right side, and the thinner part, the narrow tail, is on the left side.



The pancreas is part of the digestive system, and it makes enzymes that help digest food. It also makes hormones that control blood sugar levels.

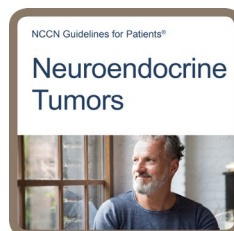
A mass called a tumor forms when pancreatic cancer cells multiply out of control. The tumor can grow through the wall of the pancreas and into nearby body tissue. Cancer cells can also break away from the tumor, spread to other areas, and form more tumors.

What are the types of pancreatic cancer?

The main types of pancreatic cancers are pancreatic adenocarcinomas and pancreatic neuroendocrine tumors.

Pancreatic adenocarcinomas are the more common type of pancreatic cancer and are the focus of this guide. These cancers form from exocrine cells, which make enzymes that help digest food.

Less often, pancreatic cancer forms from hormone-making endocrine cells. These cancers are called neuroendocrine tumors. Information on pancreatic neuroendocrine tumors can be found in *NCCN Guidelines for Patients: Neuroendocrine Tumors*, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



How is pancreatic cancer found?

Imaging scans are used to look for pancreatic cancer and assess where the cancer has spread. Pancreatic cancer can be difficult to see on scans. That's why your care team will request a very specific imaging method for pancreatic cancer.

If pancreatic cancer is found, other tests will be done. You'll have more scans, and biomarker testing is common. More information is in *Chapter 2: Testing for pancreatic cancer*.

What causes pancreatic cancer?

Experts don't know exactly what causes pancreatic cancer, but they know that there are several risk factors. One of these is being born with genes that carry a cancer risk passed down from a birth parent. This risk is inherited.

However, an inherited risk of pancreatic cancer is not common. About 1 in 10 people with pancreatic cancer have an inherited risk. In these cases, the cancer is called hereditary pancreatic cancer. Tests that detect the genes linked to pancreatic cancer are also discussed in Chapter 2.

How is pancreatic cancer treated?

No single treatment for pancreatic cancer is best for everyone. A team of experts from different fields of medicine will work together to plan the best treatment for you. This guide has several chapters that will walk you through the process of treatment planning.

Supportive care addresses the challenges of cancer

Before cancer treatment starts, you may need help with challenges brought on by cancer. This help is called supportive care. Supportive care addresses many issues, including paying bills and managing symptoms like pain. To learn about treatments for common health issues caused by pancreatic cancer, read *Chapter 4: Supportive care for cancer complications*.

Systemic therapy is the most common treatment

Planning cancer treatment starts with figuring out if you will receive surgery to remove the cancer from your body. Surgery is the only treatment that might cure pancreatic cancer, but it's not the best option for most people. Some of the factors your care team will consider when planning treatment for you are discussed in *Chapter 5: Planning primary treatment*.

The most common treatment used to control cancer growth and reduce symptoms is systemic therapy. Systemic therapy is a whole-body treatment using prescription drugs.

The drugs used to treat pancreatic cancer differ among people. Options for drug treatment based on your overall health are discussed in *Chapter 6: Systemic therapy for primary treatment*.

The types of pancreatic surgery and treatments used with surgery are described in *Chapter 7: Surgery for primary treatment*.

Clinical trials offer hope

Clinical trials are a type of health research that aim to find better ways of treating cancer. Standard treatment is often compared to a promising new drug. A clinical trial may be an option for you.

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.

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.

2

Testing for pancreatic cancer

- 9 Reasons to suspect pancreatic cancer
- 9 Decisions by a multidisciplinary team
- 10 Imaging of the pancreas
- 11 Additional imaging
- 12 Endoscopic tests
- 13 Blood tests
- 13 Biopsy to confirm cancer
- 14 Genetic testing for inherited mutations
- 16 Biomarker testing for molecular profiling
- 17 Key points
- 17 Questions to ask

2 Testing for pancreatic cancer

A series of tests is needed to identify pancreatic cancer and plan treatment. Imaging is key to detecting where cancer is in the body. Testing can also show if the cancer has unique features for which there may be a specific treatment.

Reasons to suspect pancreatic cancer

There is no telltale sign of pancreatic cancer, especially in the early stages. Your health care provider may suspect pancreatic cancer based on symptoms. Signs of pancreatic cancer on imaging scans include wide pancreatic ducts or an inflamed pancreas.

If your health care provider suspects you have pancreatic cancer, testing will be needed. Importantly, signs of pancreatic cancer can also be mistaken for symptoms caused by other health conditions.

Decisions by a multidisciplinary team

Because pancreatic cancer is complex, it takes a team of experts to decide the best way to diagnose and treat pancreatic cancer.

This team of experts should be multidisciplinary, consisting of health care professionals from different fields of medicine. Your treatment center should also see a lot of people with pancreatic cancer so the team is very experienced with pancreatic cancer.

Imaging

Imaging is used to find pancreatic cancer and assess if the cancer has spread from the pancreas to other organs.



2 Testing for pancreatic cancer

Your team should have expertise in:

- Imaging, interventional endoscopy, and pathology
- Treating cancer with prescription drugs, radiation therapy, and surgery
- Specialty care of older adults who have less ability to carry out activities
- Genetic conditions
- Addressing symptoms of the cancer and side effects of treatment

You are an important part of the team. Your input is just as important as tests for planning treatment.

When your care team meets to consult with one another, they will review your health records and the tests done before your visit.

Imaging of the pancreas

Imaging takes pictures of the inside of the body and can show cancer that's deep inside. A diagnostic radiologist is an expert in identifying health conditions in images. They will review your images for cancer.

Imaging of the pancreas is very important and is often the first test done for pancreatic cancer. It's used to detect and stage pancreatic cancer. A cancer stage describes how much cancer is in the body and where.

NCCN recommends a specific pancreatic protocol CT or MRI to look for pancreatic cancer.

Pancreatic protocols

Radiologists have identified which methods best show cancer in and near the pancreas. These methods are known as pancreatic protocols.

NCCN recommends a specific pancreatic protocol that uses computed tomography (CT) or magnetic resonance imaging (MRI) to look for pancreatic cancer in the abdomen. You'll receive liquid contrast before the scans if it's safe for you. Contrast makes the images clearer.

CT scan

A CT scan is a more detailed kind of x-ray. It takes many pictures from different angles, and a computer combines the images to make 3D pictures. A pancreatic protocol CT takes pictures before contrast and multiple times after contrast.

MRI scan

Imaging of the pancreas is usually done with a CT scan, but you may have an MRI instead. MRI uses strong magnetic fields and radio waves to make images.

A pancreatic protocol MRI may show small tumors and metastases that are not seen on a CT scan. A metastasis is pancreatic cancer that has spread from the pancreas to other organs or structures in the body.

2 Testing for pancreatic cancer

A magnetic resonance cholangiopancreatography (MRCP) is a type of MRI that's usually part of the MRI pancreatic protocol. It makes very clear pictures of the pancreas and bile ducts. No contrast is used because bile and other fluids act as contrast.

Additional imaging

Your team will meet and discuss the results of the pancreatic protocol scans. If there are signs of pancreatic cancer, they will scan other areas of your body.

Because pancreatic cancer has often spread to other areas by the time it's diagnosed, everyone should have CT scans with contrast of the chest and pelvis.

Metastatic pancreatic cancer often involves the liver and lining of the abdomen and less commonly the lungs and other organs. Tests used to look for metastatic pancreatic cancer are listed in **Guide 1**.

After the CT scans, your team will decide if the following scans would be helpful:

- MRI to look for cancer spread to the liver if the CT results were unclear
- Positron emission tomography with CT (PET/CT) or with MRI (PET/MRI) if there is a high chance of distant spread

A PET scan highlights tissue in your body that may be cancerous using a sugar radiotracer. Cancer cells take in more of the tracer than normal cells and show up as bright spots on the scan.

Guide 1

Tests that look for signs of metastatic pancreatic cancer

Pancreatic cancer often has spread far before it's found. Everyone needs the first 2 tests listed to look for cancer spread. Your care team will decide if the other tests are needed.

- Pancreatic protocol CT or MRI of the abdomen
- CT of the chest and pelvis
- MRI of the liver
- PET/CT or PET/MRI
- Endoscopic ultrasound, ERCP, or laparoscopy
- Liver function tests and CA 19-9 marker

Endoscopic tests

An endoscope is a small medical device that allows doctors to see and work inside of the body. It causes less trauma to the body than open surgery. Your care team will decide if endoscopic staging is needed, though this is not commonly done.

Endoscopic ultrasound

An endoscopic ultrasound may be done to confirm where the pancreatic tumor has grown. Part of the endoscope will be inserted into the mouth and guided through the stomach to the first part of the small intestine called the duodenum. The ultrasound probe on the endoscope makes images of the pancreas and nearby structures. Your doctor will look for areas of cancer growth and may obtain tissue samples for testing.

ERCP

Endoscopic retrograde cholangiopancreatography (ERCP) is mostly used to treat health conditions. For example, this includes the placement of a stent to unblock a bile duct. ERCP may be used to look for areas of cancer growth. ERCP is very similar to an endoscopic ultrasound except it uses an injected dye to see tissue on x-rays.

Laparoscopy

Endoscopes designed for laparoscopy are referred to as laparoscopes. Using a laparoscope, your surgeon will look for signs of cancer outside of the pancreas. Tissue or fluid samples may be removed and tested for cancer.

Staging laparoscopy may be done to look for signs of cancer spread within the lining of the abdomen, called the peritoneum. This lining is a common place for metastases that aren't often seen with scans.

Endoscopic ultrasound

For some people, an endoscopic ultrasound may help stage pancreatic cancer. It can show where the tumor has grown in and around the pancreas.



2 Testing for pancreatic cancer

A surgeon performs a laparoscopy by making small cuts in the belly area called the abdomen. You'll be in a sleep-like state due to general anesthesia.

Blood tests

Many blood tests will be done to help with cancer staging. Blocked bile ducts can affect test results, so blood samples can only be taken when your bile ducts are clear.

Liver function tests

Liver function tests measure levels of proteins and enzymes made or processed by the liver. They also measure a chemical called bilirubin that makes bile yellow. Abnormal levels may be caused by pancreatic cancer that's blocking bile ducts or is in the liver.

CA 19-9 marker

Pancreatic cancer cells make a protein called carbohydrate antigen 19-9 (CA 19-9). High CA 19-9 levels in the blood are a tumor marker of pancreatic cancer, but CA 19-9 can't be used alone for diagnosis because:

- High levels can be caused by other health conditions, including a blocked bile duct, and by certain medicines.
- Some people with pancreatic cancer have normal levels of CA 19-9 or don't make CA 19-9.

When caused by pancreatic cancer, high CA 19-9 levels often mean a high cancer stage. Your care team will take CA 19-9 levels into account when planning treatment. This test may be repeated after treatment to check if levels are dropping or rising.

If your CA 19-9 levels are normal, your care team may check your carcinoembryonic antigen (CEA) and CA-125 levels. CEA and CA-125 are markers of pancreatic cancer and are often high in people with the disease.

Biopsy to confirm cancer

A biopsy is a procedure that removes tissue or fluid samples from the body. The samples are then sent to a lab and examined by a pathologist for cancer cells. A pathologist is a doctor who's an expert in testing cells and tissue to diagnose disease, including cancer.

Testing biopsy samples is the only way to confirm if you have pancreatic cancer. NCCN doesn't recommend testing circulating tumor DNA in blood because there are no strong data to support its use in pancreatic cancer.

Timing of biopsy

Not everyone needs a biopsy before cancer treatment. If you have surgery first, the diagnosis may be confirmed during surgery to spare you from having another complex procedure. If you don't have surgery, a biopsy is needed to confirm the diagnosis before drug treatment, such as chemotherapy.

Types of biopsy

The type of biopsy you'll receive partly depends on where the cancer may be and on the treatment plan. The body part that likely has cancer and would provide the highest cancer stage will be sampled. Several samples should be removed for diagnosis as well as biomarker testing.

2 Testing for pancreatic cancer

A biopsy for pancreatic cancer is often done with a needle. This is called a needle biopsy.

The preferred method of needle biopsy is with an endoscopic ultrasound. This method gets better samples and has less risk than other biopsies. If you're having an ERCP for stent placement, a biopsy can be done first.

Another method of needle biopsy is to go through the skin. This is usually done if your team suspects that pancreatic cancer has spread to other organs. A CT scan or ultrasound is used to guide the needle to the right spot. Imaging-guided biopsy is the preferred way to remove small pieces of tumor.

Possible second biopsy

If no cancer cells are found, a second biopsy may be done if your care team thinks you could have cancer. Tissue from another area may be removed, or a different type of biopsy might be done. You might need to go to a cancer center that treats many people with pancreatic cancer.

Genetic testing for inherited mutations

Some people with pancreatic cancer inherited risk of the cancer from a birth parent. In these cases, it is called hereditary pancreatic cancer.

Germline mutations

Cancer risk is passed down from parents to children through abnormal genes called germline mutations. Germline mutations are in every cell of the body that has DNA. Germline genetic testing tells your care team about you, but not necessarily about your cancer.

Genetic testing is used to look for germline mutations. All people with pancreatic cancer should get genetic testing, which is used for treatment planning. Either a sample of blood or spit is tested. Germline mutations related to pancreatic cancer are given in **Guide 2**.

All people with pancreatic cancer should get genetic tests for inherited mutations.

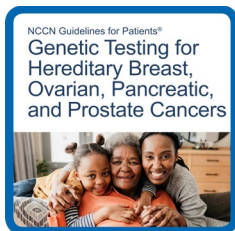
“

They tell me to take it a day at a time, dealing with pancreatic cancer, treatments, and side effects. It's more like a moment at a time. Ultimately those moments become days and then weeks. One day, you'll look back and recognize the challenges you've overcome and the milestones you've surpassed."

2 Testing for pancreatic cancer

Genetic testing looks for but doesn't find germline mutations in most people with pancreatic cancer. That's because most people don't have hereditary pancreatic cancer. Also, the genetic cause of hereditary pancreatic cancer is unknown in most families.

Read more about genetic testing in *NCCN Guidelines for Patients: Genetic Testing for Hereditary Breast, Ovarian, Pancreatic, and Prostate Cancers*, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Genetic counseling

Talking to a genetic counselor may be helpful for people with pancreatic cancer who have either a:

- Cancer-causing germline mutation
- Family history of cancer, especially pancreatic cancer

Genetic counselors can help explain the results of the genetic tests. You may learn that you have a hereditary health condition. You and your counselor can discuss sharing the test results with your family.

Genetic testing for inherited mutations is helpful for planning treatment. Some types of treatment work well for certain inherited mutations. An example is the drug olaparib (Lynparza), which is used to treat people with pancreatic cancer who have germline *BRCA* mutations.

Guide 2 Genetic testing for pancreatic cancer

These are some of the inherited gene mutations related to pancreatic cancer.

- *ATM* mutation
- *BRCA1* and *BRCA2* mutations
- *CDKN2A* mutation
- *PALB2* mutation
- *MLH1*, *MSH2*, *MSH6*, and *PMS2* mutations
- *STK11* mutation
- *TP53* mutation

Biomarker testing for molecular profiling

Biomarker testing looks for biological clues, or markers, of cancer that differ between people. These clues, such as the CA 19-9 marker, can help with diagnosis and treatment.

Importantly, not all pancreatic cancers are the same. Biomarker testing for pancreatic cancer provides a molecular profile—small yet important features—of the cancer. It detects abnormal changes in the genes of cancer cells that occurred during your lifetime. Some of these changes are listed in **Guide 3**.

Pancreatic cancer that will be treated with prescription drugs should be tested for

biomarkers that affect treatment decisions. Because there are multiple gene markers, NCCN advises testing for many of these markers at the same time.

A sample of the tumor is preferred for testing. Since fragments of DNA from cancer cells are in the blood, a blood sample might be tested if tissue testing is not an option.

Pancreatic cancer that will be treated with prescription drugs should be tested for biomarkers that affect treatment decisions.

Guide 3

Biomarker testing of pancreatic cancer

Tests of these biomarkers are used to plan drug treatment for pancreatic cancer.

A **fusion** is when a piece of a gene is joined to a piece of another gene. There are treatments for *ALK*, *NRG1*, *NTRK*, *ROS1*, *FGFR2*, and *RET* fusions.

A **mutation** is a change in a gene's DNA. There are treatments for *BRAF*, *BRCA1*, *BRCA2*, *PALB2*, and *KRAS* mutations.

An **amplification** is extra copies of a gene. There is treatment for *HER2* amplification.

Overexpression is a high level of a cell protein. There is treatment for *HER2* overexpression.

Microsatellite instability is when errors are made in small DNA parts when DNA is being copied to make new cells. There is treatment for high microsatellite instability.

Mismatch repair deficiency is an inability to correct microsatellite instability due to an impaired repair system. There is treatment for mismatch repair deficiency.

Tumor mutational burden is the total number of DNA changes in cancer cells. There is treatment for high tumor mutational burden.

Key points

- A highly experienced team of experts should manage your care if pancreatic cancer is suspected or diagnosed.
- When pancreatic cancer is suspected, a CT or MRI scan done according to a pancreatic protocol can best show if there is a mass and where it has grown. Additional imaging and endoscopic tests may be done to help figure out the cancer stage.
- Liver function tests and a carbohydrate antigen 19-9 (CA 19-9) test may be needed for staging and treatment planning.
- A diagnosis of pancreatic cancer can only be made by testing a sample of tissue.
- After diagnosis, genetic tests will be done to assess if you have an inherited risk of pancreatic cancer.
- Biomarker tests provide a molecular profile of the cancer used for treatment planning.

Questions to ask

- Are you an expert in pancreatic cancer?
- Who will explain what's needed of me for testing?
- Could the tests be wrong or cause health problems?
- Who will explain my test results to me and when?
- How can I get a copy of the test results in case I want a second opinion?

What's next?

Your team will discuss your diagnosis with you and tell you if you need more tests. They will also start planning treatment.

The types of treatment used for pancreatic cancer are briefly described in the next chapter. This overview will help you understand later chapters that explain NCCN recommendations for planning treatment and personalized care.

3

Types of treatment

- 19 Clinical trials
- 20 Chemotherapy
- 22 Targeted therapy
- 23 Immune checkpoint inhibitors
- 24 Surgery
- 24 Radiation therapy
- 25 Chemoradiation
- 25 Key points
- 25 Questions to ask

3 Types of treatment

There are many types of treatment for pancreatic cancer. Each one stops pancreatic cancer in a different way. Even so, a cure is needed for many cancers. Better ways of fighting pancreatic cancer are tested in a research process.

This chapter briefly describes all of the treatments for pancreatic cancer, since many people receive more than one type. You'll learn how cancer treatments work and how to get early access to new treatments.

Clinical trials

You may be able to receive tomorrow's cutting-edge treatment today through a clinical trial. But keep in mind that sometimes the treatment being tested doesn't help as expected.

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 doctor about whether a clinical trial may make sense for you.



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)

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.

3 Types of treatment

- **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.

Will I get a placebo?

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

Are clinical trials free?

There is 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 will continue to receive standard cancer care. This care is often covered by insurance.

Chemotherapy

Chemotherapy is a class of drugs that has been used for decades to treat pancreatic cancer. It kills fast-growing cells, including cancer cells, by stopping the process by which cells make more cells. This process is called cell division.

A medical oncologist is a health professional who is an expert in treating cancer with chemotherapy and other prescription drugs. They will be a member of your care team.

Types of chemotherapy

There are several types of chemotherapy. Each type stops cell division in a different way.

Chemotherapy treatment of pancreatic cancer always includes a drug called an antimetabolite. These drugs are:

- Fluorouracil
- Gemcitabine (Avgemsi)
- Capecitabine (Xeloda)

3 Types of treatment

People with better health may receive more than one antimetabolite or a combination of drug types. Other types of chemotherapy that treat pancreatic cancer are:

- Platinum chemotherapy – Oxaliplatin, cisplatin
- Taxanes – Paclitaxel with human albumin (Abraxane), docetaxel (Beizray, Docivyx, Taxotere)
- Topoisomerase inhibitors – Irinotecan (Camptosar), irinotecan inside of liposomes (Onivyde)

Leucovorin is folic acid and is sometimes given with chemotherapy. It enhances the effect of some chemotherapies or reduces health issues caused by chemotherapy.

How chemotherapy is given

Chemotherapy is given in cycles of treatment days followed by rest days. Cycles vary in length depending on which drugs are used.

Most chemotherapies are administered by infusion through a needle inserted into a vein. An infusion is a slow drip, controlled by a pump, that may take hours. You may get an implanted device called a port to make infusions easier.

Fluorouracil can be given by infusion or by a faster injection called a bolus.

Capecitabine is an example of a chemotherapy for pancreatic cancer that is a pill you can take at home.

What is chemotherapy?

Chemotherapy is a type of drug used to kill cancer cells. It's typically slowly injected into a vein while you sit in a chair. Some people, like this person, receive the medicine through a port implanted in their chest.



3 Types of treatment

Side effects

Cancer treatment can cause unwanted health issues, called side effects. Side effects from chemotherapy are caused by the death of fast-growing normal cells. Examples include nausea and vomiting, anemia, and hair loss.

Targeted therapy

Targeted therapy is a newer drug treatment for cancer than chemotherapy but has been used for years. It works by stopping the specific ways pancreatic cancer cells grow.

Biomarker testing is needed to determine if targeted therapy is an option.

Kinase inhibitors

Kinase inhibitors stop chemical signals that tell pancreatic cancer cells to grow, so fewer new cancer cells are made. They work inside of cells to turn off growth signals. Kinase inhibitors are pills that can be taken at home.

Types of kinase inhibitors

There are several kinase inhibitors that treat pancreatic cancer:

- Erlotinib stops EGFR signals.
- Entrectinib (Rozlytrek), larotrectinib (Vitrakvi), and repotrectinib (Augtyro) stop TRK signals.
- Dabrafenib (Tafinlar) stops BRAF signals and is given with trametinib (Mekinist), which stops BRAF signals by stopping MEK signals.

Managing side effects

Information on managing common treatment side effects can be found in the library of NCCN Guidelines for Patients, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



- Selpercatinib (Retevmo) stops RET signals.
- Adagrasib (Krazati) and sotorasib (Lumakras) stop KRAS signals.
- Erdafitinib (Balversa) stops FGFR signals.

Side effects

Each kinase inhibitor has its own profile of side effects, but fatigue, diarrhea, and skin problems are common.

3 Types of treatment

Antibody therapy

Antibody therapy for pancreatic cancer is another type of targeted therapy. It works on the outside of the cell to stop receptors on the surface of cells. Cell receptors receive and send signals, like antennas.

Zenocutuzumab-zbco (Bizengri) is an antibody therapy that stops growth signals from receptors called HER2 and HER3. Side effects include diarrhea, musculoskeletal pain, and fatigue. It's given by infusion.

PARP inhibitors

PARP inhibitors stop a protein that cancer cells use to repair damaged DNA. The damaged cancer cells then die. PARP inhibitors used to treat pancreatic cancer are olaparib (Lynparza) and rucaparib (Rubraca).

PARP inhibitors are pills that you can take at home. They may cause low blood cell counts, which could put you at risk of infections, bleeding, and tiredness. Your care team will talk with you about the potential side effects.

Antibody-drug conjugate

An antibody-drug conjugate combines 2 drugs in one medicine. One drug finds and attaches to cancer cells, and then the other drug attacks the cancer. Antibody-drug conjugates are given by infusion.

Fam-trastuzumab deruxtecan-nxki (Enhertu) attaches to a receptor called HER2 and releases chemotherapy into the cell.

Side effects of this drug are similar to classic chemotherapy side effects.

Immune checkpoint inhibitors

Immune checkpoint inhibitors are also newer drug treatments than chemotherapy. They are a type of immunotherapy that restores the ability of immune T cells to kill cancer cells.

Biomarker testing is needed to determine if immunotherapy is an option.

Types of immune checkpoint inhibitors

There are several types of immune checkpoint inhibitors. Each type restores the ability of T cells to kill cancer cells in a slightly different way. Immune checkpoint inhibitors that treat pancreatic cancer are:

- Pembrolizumab infusion (Keytruda), nivolumab (Opdivo), and dostarlimab-gxly (Jemperli), which are PD-1 inhibitors.
- Ipilimumab (Yervoy), which is a CTLA-4 inhibitor.

The immune checkpoint inhibitors listed above are given by infusion. Pembrolizumab and berahyaluronidase alfa-pmph (Keytruda Qlex) is an immune checkpoint inhibitor that's injected under the skin.

Side effects

Immune checkpoint inhibitors may cause your immune cells to attack your healthy cells. This can lead to a wide range of side effects because many parts of the body could be affected. You may have symptoms in your skin, mouth, glands, bowel, liver, and other organs.

3 Types of treatment

Surgery

Surgery is a treatment that removes tumors or body tissue with cancer. Although most pancreatic cancers are not treated with surgery, more people with pancreatic cancer are having surgery than in the past because of medical advances.

The goal of surgery is to remove the pancreatic tumor and nearby lymph nodes. Lymph nodes are small structures that are found throughout your body. They help fight disease. Sometimes, pancreatic cancer cells spread to lymph nodes.

Pancreatic surgery is complex. It's a long procedure with multiple steps. NCCN recommends having surgery at a care center that does at least 15 to 20 pancreatic cancer surgeries every year.

There are several types of surgery for pancreatic cancer, which are explained in *Chapter 7: Surgery for primary treatment*.

Common side effects of surgery are scars, swelling, and local pain. Pain often lessens over time. You might need pancreatic enzyme replacement therapy to help digest your food.

Radiation therapy

Radiation therapy uses high-energy x-rays to kill or damage pancreatic cancer cells. A radiation oncologist is an expert in treating cancer with radiation. Your radiation oncologist will lead a team that designs your treatment plan and gives radiation therapy.

The most common method to treat pancreatic cancer is called external beam radiation therapy (EBRT). A large machine makes radiation fields that are shaped to the form

What is radiation therapy?

Radiation therapy is the use of high-energy radiation to kill cancer cells. During treatment, you will lie still on a table (shown).



3 Types of treatment

of the tumor. The machine aims the highest radiation dose at the cancer. Nearby healthy tissue may receive some radiation in the process.

Stereotactic body radiation therapy (SBRT) is a specialized form of EBRT. It treats cancer with very precise, high-dose radiation beams. SBRT is finished in 5 or fewer sessions. Most people have no side effects from SBRT.

Chemoradiation

Chemoradiation is a cancer treatment that combines chemotherapy and radiation therapy. Chemotherapy may make it easier to kill cancer cells with radiation.

For pancreatic cancer, chemotherapy and radiation therapy are given during the same time frame. Adding chemotherapy to radiation therapy often causes more side effects than radiation therapy by itself.

Key points

- New ways of fighting cancer are studied among people in clinical trials.
- Chemotherapy, targeted therapy, and immunotherapy are types of drugs that treat pancreatic cancer. Cancer drugs can cause side effects in several areas of the body.
- Pancreatic surgery is complex and should be done at a high-volume center. You might need to take enzymes to digest your food after surgery.
- External beam radiation therapy (EBRT) treats a specific area of cancer with

high-energy x-rays. Stereotactic body radiation therapy (SBRT) is a technique for delivering radiation more precisely and often has no side effects.

- Chemotherapy and radiation therapy can be combined to treat pancreatic cancer. It causes more side effects than radiation therapy alone.

Questions to ask

- Is there a clinical trial that's a good fit for me?
- What are the common and serious side effects of my treatment?
- How will you prevent side effects of treatment?
- How many pancreatic surgeries have you done in the past year?

What's next?

A treatment plan usually includes treatment for cancer and support for you.

Supportive care addresses the challenges of cancer. It includes preventing or relieving the treatment side effects discussed in this chapter.

The next chapter discusses supportive care for health issues caused by pancreatic cancer.

4

Supportive care for cancer complications

- 27 What is supportive care?
- 28 Blocked bile duct
- 29 Blocked stomach
- 29 Low levels of digestive enzymes
- 29 Loss of appetite
- 29 Cancer-related pain
- 30 Blood clots
- 31 Bleeding in the GI tract
- 31 Distress and depression
- 31 Cancer-related fatigue
- 32 Key points
- 32 Questions to ask

4 Supportive care for cancer complications

Pancreatic cancer often causes other health issues. Supportive care includes treatment for these complications. It can also address other challenges brought on by having cancer.

This chapter explains what supportive care is and focuses on care for common health issues caused by pancreatic cancer.

What is 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.

Supportive care includes a wide range of services. Supportive care prevents or manages the symptoms of cancer and the

side effects of cancer treatment, like pain and cancer-related fatigue. It also addresses the mental, social, emotional, 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

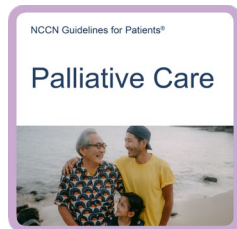
Some health care professionals refer to palliative care as supportive care. They think these types of care are alike or overlap. Others think there are important differences, but both help people with cancer to live as well as they can. Your cancer center may have palliative care specialists, who can give you additional support.

A palliative care specialist has received specific training to provide additional support to you. Their care focuses on relieving symptoms and reducing stress. A palliative care specialist may be a doctor, nurse, or other type of care provider. Some cancer centers have palliative care programs.



4 Supportive care for cancer complications

Read more about the types of support you may receive in *NCCN Guidelines for Patients: Palliative Care*, available at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Blocked bile duct

Pancreatic tumors often grow large enough to block a bile duct. A bile duct is a small tube-shaped structure that drains fluid called bile from the liver. The common bile duct runs through the head of the pancreas where most pancreatic tumors grow.

A blocked bile duct can cause a range of symptoms. People often have yellowed eyes or skin called jaundice. Pain, fever, or itchiness may also occur.

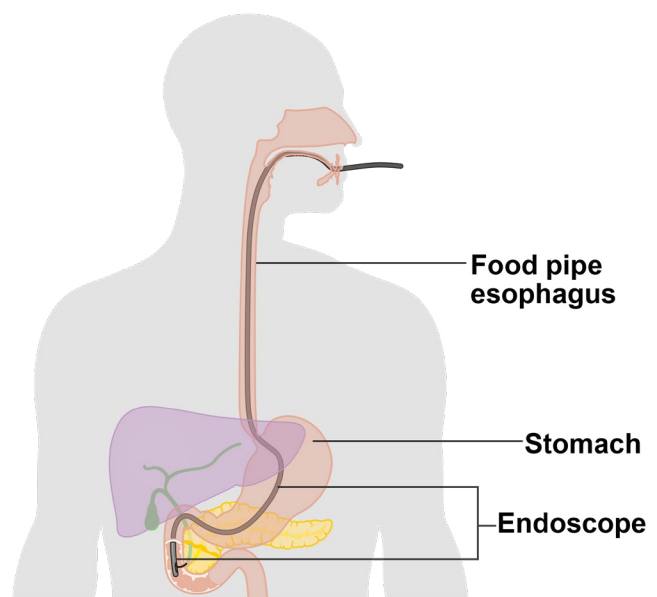
There are 3 ways to treat a blocked duct:

- The preferred method is to place a small, expandable tube, called a stent, inside of the bile duct during a procedure called endoscopic retrograde cholangiopancreatography (ERCP). Stents can be plastic or metal and can stay in place on a short- or long-term basis.
- Bile can be drained from the duct through a long, soft tube, called a catheter, to a bag outside of your body then possibly later into your intestine.
- A surgery called a biliary bypass can be done. This connects the small intestine to the common bile duct above the pancreas.

Blocked bile duct

An endoscopic retrograde cholangiopancreatography (ERCP) may be used to open a blocked bile duct. The endoscopist will guide an endoscope tube down your throat to the small intestine. An x-ray video will show the endoscope moving inside of your body. Next, the doctor will insert a stent into the blocked duct.

Credit: commons.wikimedia.org/wiki/File:Diagram_showing_an_endoscopic_retrograde_cholangio_pancreatography_(ERCP)_CRUK_097.svg



Blocked stomach

A pancreatic tumor may grow large enough to block food from leaving your stomach. The blockage can cause pain, vomiting, and weight loss.

Treatments for a blocked stomach include:

- Bypassing the blockage with an endoscopic or surgical gastrojejunostomy that connects the bottom of the stomach to the middle of the small intestine
- Opening the blockage with a stent placed during an endoscopy
- Relieving stomach pressure with a venting percutaneous endoscopic gastrostomy tube (PEG or G-tube) inserted through the skin into the stomach

In addition to a gastrojejunostomy, you may receive a feeding tube. A PEG tube can be used as a feeding tube. A J-tube is also a feeding tube inserted through the skin into the small intestine.

Low levels of digestive enzymes

The pancreas makes enzymes that break down proteins, fats, sugars, and starches in food. Pancreatic cancer or its treatment may cause the pancreas to make fewer enzymes. This is called exocrine pancreatic insufficiency.

Pancreatic enzyme replacement therapy

You may have trouble digesting food without enough pancreatic enzymes. Pancreatic

enzyme replacement therapy gives you the digestive enzymes you may not have enough of. You'll need to take several capsules while you eat.

Nutritional counseling

If you have exocrine pancreatic insufficiency, you don't absorb enough nutrients from food. You may experience malnutrition as a result. If this occurs, a registered dietitian may meet with you. They are experts in nutrition and meal planning.

Loss of appetite

People with advanced pancreatic cancer often have a loss of appetite called anorexia. Chemotherapy may worsen anorexia.

Olanzapine (Zyprexa) is a prescription drug that can increase appetite and weight gain. A low dose taken every day often has good results with minimal side effects. Some side effects of olanzapine are sleepiness, dizziness, and constipation.

Cancer-related pain

Most people with advanced pancreatic cancer have cancer-related pain. A large tumor can cause pain by pressing on nearby organs. Pancreatic cancer can also spread to nearby nerves and cause severe pain.

Working with a palliative care specialist or a pain specialist soon after your cancer diagnosis may be helpful.

4 Supportive care for cancer complications

Pain from pancreatic cancer may be managed with:

- Medicine using opioids that are given around the clock (which works better than taking these medicines as needed)
- Injection of a nerve block into the celiac plexus nerve bundle (called celiac plexus neurolysis) during endoscopic ultrasound or through the skin guided by imaging
- Radiation therapy or radiosurgery targeting the celiac plexus
- Stereotactic body radiation therapy to shrink the cancer

If these methods don't control the pain well or cause troublesome side effects, there are 3 other options:

- High-intensity focused ultrasound
- Tumor-directed radiation therapy with or without chemotherapy depending on whether it's part of your cancer treatment
- A pain pump to give medicine directly to the spinal cord (also called intrathecal drug delivery)

Blood clots

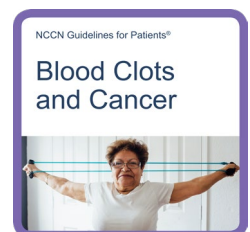
Pancreatic cancer can cause blood to thicken and form blood clots. This is called thromboembolic disease.

When blood thickens, blood clots can form inside of a blood vessel. As blood clots worsen, they can block enough blood flow to cause symptoms. Untreated blood clots may cause long-term problems or could be deadly.

Many blood clots are prevented or safely treated with medicine called anticoagulants:

- **Vitamin K blockers** – Among these medicines, warfarin (Coumadin, Jantoven) is used most often. Warfarin is a pill taken at home. It stops the liver from using vitamin K, which is needed to make clotting proteins.
- **Low-molecular-weight heparin (LMWH)** – This medicine enhances the effect of a natural anticoagulant in your body. It's injected into the skin and can be taken at home. LMWH is preferred over warfarin for treatment.
- **Direct oral anticoagulants** – These pills disable the proteins that help the blood to clot. A direct oral anticoagulant may be used if the pancreatic tumor is not growing inside of the stomach or intestine.

Read more about anticoagulants in *NCCN Guidelines for Patients: Blood Clots and Cancer*.



Bleeding in the GI tract

Pancreatic cancer may also cause bleeding in the GI (gastrointestinal) tract at the location of the main tumor.

GI bleeding may occur due to cancer-related ulcers or high blood pressure in the liver vein. If bleeding happens, you may have bloody stools or vomit blood. There are 3 treatments for bleeding:

- Endoscopic treatment
- Radiation therapy if you haven't had radiation in that area
- Blocking a bleeding blood vessel (embolization) with materials inserted through a long tube that can be seen with an x-ray video (angiography)

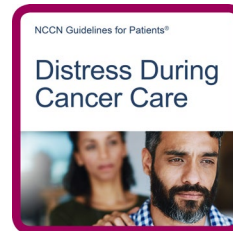
Distress and depression

Everyone with cancer feels distressed at some point. It's normal to feel worried, sad, helpless, or angry. These feelings can make it harder to deal with cancer and cancer treatment. They can hold you back even when you want to move forward.

Depression is different from distress. It's not a short-lived moment of sadness. It's a health condition that makes people feel down or irritable or lose interest in enjoyable activities to the point they can't function normally.

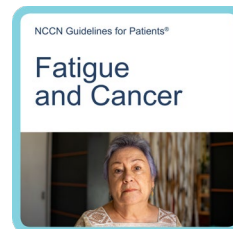
It's common for people with pancreatic cancer to have depression. There appears to be a biological link between these health conditions. The challenges brought on by pancreatic cancer also put people at risk of depression.

Getting help for distress or depression is an important part of supportive care. *NCCN Guidelines for Patients: Distress During Cancer Care* empowers people to get help.



Cancer-related fatigue

Cancer-related fatigue is not the typical tiredness that follows an active or long day. It's a lack of energy that's distressing, doesn't improve with normal rest or sleep, and disrupts life. Learn about physical activity and other methods that reduce cancer-related fatigue in *NCCN Guidelines for Patients: Fatigue and Cancer*.



Key points

- Supportive care is health care that improves quality of life by addressing the challenges related to cancer.
- Your supportive care team may include a palliative care specialist, registered dietitian, and pain specialist.
- Pancreatic cancer can block bile ducts and the stomach. Stents and surgery can bypass blockages.
- People with pancreatic cancer often have special nutritional needs. You might need to take enzymes that help your body digest food. Some people need a feeding tube. Olanzapine is a medicine that can increase appetite and weight gain.
- Pain is often managed with opioids, nerve blocks, or radiation therapy.
- Bleeding can be stopped with endoscopic treatment, radiation, or embolization.
- The library of NCCN Guidelines for Patients has guides on palliative care, blood clots, distress, and fatigue.

Questions to ask

- When will we discuss a supportive care plan for me?
- Who can help me with health insurance and paying my bills?
- Who can I speak to about nutritional symptoms and concerns?
- How will you relieve the symptoms I have?
- Who should I contact if my symptoms get worse?

What's next?

Learn how care teams decide the main treatment for pancreatic cancer in *Chapter 5: Planning primary treatment*.



share with us.

Take our survey and help make the NCCN Guidelines for Patients better for everyone!

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

5

Planning primary treatment

- 34 Options for primary treatment
- 34 Important deciding factors
- 36 Key points
- 36 Questions to ask

The main treatment used to control cancer growth is called primary treatment, which for most pancreatic cancers is prescription drugs. Surgery may be an option if there are no clear signs of distant cancer spread.

This chapter explains how cancer care teams decide on what the primary treatment should be. Read on to learn the best option for you.

Options for primary treatment

Treatment of pancreatic cancer may consist of one treatment or multiple types of treatment. The treatment that's most important is called primary treatment. Primary treatment is most likely to achieve the best results.

Not everyone with pancreatic cancer has the same primary treatment. The best treatment for someone else may not be the best treatment for you.

There are 2 main types of primary treatment for pancreatic cancer:

- **Systemic therapy**, which kills cancer cells throughout the body with prescription drugs.
- **Surgery**, which removes tumors and body tissue that has cancer.

Important deciding factors

Your care team will consider many factors to decide which primary treatment is best for you. This section describes 3 of these factors.

Cancer stage

Which primary treatment you receive depends largely on what stage the cancer is. A cancer stage is a rating of the extent of the cancer.

Stages of pancreatic cancer

The stages of pancreatic cancer describe how much the cancer has grown and spread in the body.

Stage 0 is only in the innermost layer of a pancreatic duct.

Stage 1 consists of a tumor that is no bigger than 4 centimeters and has not spread outside of the pancreas.

Stage 2 means the tumor is larger than 4 centimeters or the cancer has spread to 1 to 3 nearby lymph nodes. Lymph nodes are small structures that help the body fight disease.

Stage 3 has grown through the pancreas to nearby major arteries or has spread to 4 or more lymph nodes.

Stage 4 has spread far and commonly involves the liver or lining of the abdomen.

5 Planning primary treatment

Stages of pancreatic cancer range from stage 0 to stage 4. Often, stages 1 through 4 are written with Roman numerals—stages I, II, III, and IV. A lower number means the cancer has grown less, and a higher number means it has grown more.

Most people with pancreatic cancer can't have surgery because the cancer has spread far. Distant spread is called metastatic or stage 4 pancreatic cancer.

The primary treatment of metastatic pancreatic cancer is systemic therapy. The goal of treatment is to control cancer, prolong life, and manage symptoms.

If the cancer is not metastatic, your care team will decide if surgery is an option based on other factors.

Cancer growth to blood vessels

The goals of surgery are to safely remove all of the cancer to extend life and improve quality of life. These goals may be reached if the cancer hasn't grown much outside of the pancreas.

NCCN recommends that a multidisciplinary team decide together if surgery is an option. Larger pancreatic cancers are harder or even impossible to remove. Most often, pancreatic cancer can't be removed because of major growth to nearby blood vessels.

Pancreatic cancers that aren't metastatic are placed into one of these groups based on their contact with blood vessels:

- **Resectable** means that a surgeon can remove the cancer. To improve outcomes, you may receive other types of treatment before or after surgery.
- **Borderline resectable** means that a surgeon would have a hard time safely removing all of the cancer. Treatment to shrink the cancer should be done first.
- **Locally advanced** means that the cancer involves critical blood vessels and can't be safely removed at this time. However, some people can have surgery after getting other types of treatment first.

Performance status

Performance status is your ability to do day-to-day activities. Cancer and other diseases can limit what you can do. Limited ability is a sign of poor overall health.

Early-stage pancreatic cancer often doesn't limit performance status, but late stages might.

If your performance status is poor, surgery is not an option, and some systemic therapies may be harmful.

Key points

- The main treatments of pancreatic cancer are systemic therapy and surgery.
- Most people can't have surgery because the cancer is widespread or surgery would be too much for their body.
- Even when pancreatic cancer hasn't spread far, it might not be possible to remove because of major growth to nearby blood vessels.
- A multidisciplinary team should decide if the cancer can be removed (resectable), will be challenging to remove (borderline resectable), or is very unlikely to be removed (locally advanced) with an operation.

Questions to ask

- Is systemic therapy or surgery the better primary treatment for me?
- What is the goal of treatment?
- Could surgery be an option for me in the future?
- Who will explain the treatment plan to me?

What's next?

Now that you know your options for primary treatment, you can find more information about your treatment in the next chapters:

- Treatment for locally advanced and metastatic cancers is explained in *Chapter 6: Systemic therapy for primary treatment*.
- Treatment for resectable and borderline resectable cancers is explained in *Chapter 7: Surgery for primary treatment*.

6

Systemic therapy for primary treatment

- 38 Planning initial treatment
- 38 Options for initial treatment
- 39 NCCN levels of preference
- 40 First-line systemic therapy
- 43 Planning care after first-line therapy
- 43 Maintenance therapy for metastatic cancer
- 44 Second-line systemic therapy
- 48 Key points
- 48 Questions to ask

6 Systemic therapy for primary treatment

Systemic therapy is the main treatment for most pancreatic cancers. It treats pancreatic cancer anywhere in the body. Radiation therapy affects a specific area of cancer and is sometimes part of treatment.

This chapter walks you through the options for each step of treatment. You will also learn about important factors care teams consider when planning treatment.

Planning initial treatment

An important part of treatment planning is deciding if cancer treatment is safe for you.

Your care team will decide if cancer treatment is safe by assessing your overall health. Your overall health is determined by your ability to do day-to-day activities. This ability is called performance status.

The Eastern Cooperative Oncology Group (ECOG) Performance Status is a common scoring system. Scores range from 0 to 4.

- Low scores of 0, 1, and 2 reflect better overall health. If you are fairly healthy, cancer treatment is likely to be safe.
- High scores of 3 or 4 reflect poorer overall health. Intense cancer treatment is likely to be too harsh on your body if your scores are high.

NCCN recommends that people with a performance score of 4 receive supportive

care. Goals of supportive care can be adapted to your needs and could include symptom relief, better quality of life, fewer health crises, and longer life. More information is in *Chapter 4: Supportive care for cancer complications*.

Options for initial treatment

Based partly on your performance status, your team will assess which cancer treatment is the best option for you.

They will also plan treatment based on if the cancer is locally advanced or metastatic. Locally advanced cancers have not spread far but have major contact with blood vessels. Metastatic cancer has spread far from the pancreas.

Options for initial treatment are explained next and summarized in **Guide 4**.

Performance status 0, 1, or 2

In addition to cancer treatment, you should receive supportive care to address any challenges caused by cancer.

Clinical trial

You may be able to receive cancer treatment in a clinical trial. Participating in a trial depends on whether there is an open trial enrolling people who have similar cancers. NCCN recommends a clinical trial over other options.

Systemic therapy

Systemic therapy is the most common treatment for advanced pancreatic cancers. It includes chemotherapy, targeted therapy, and immunotherapy.

6 Systemic therapy for primary treatment

Chemoradiation and SBRT

There are 2 treatment approaches that include radiation therapy for locally advanced pancreatic cancer.

One approach starts with chemotherapy. After 4 to 6 months of chemotherapy, the cancer is then treated with chemoradiation or stereotactic body radiation therapy (SBRT).

The other approach starts with either chemoradiation or SBRT. These treatments relieve pain and open blockages caused by the cancer.

Performance status 3

NCCN recommends that care teams consider systemic therapy for people with a performance score of 3. Options are listed later in this chapter in the section called “First-line systemic therapy.” If you don’t start cancer treatment, supportive care is still an option.

NCCN levels of preference

A regimen is a plan for systemic therapy. It consists of one or more prescription drugs that are taken at a specific dose, schedule, and length of time.

All regimens listed in this guide are recommended and appropriate. NCCN experts assign a level of preference to regimens.

- **Preferred therapies** have the most evidence they work better and may 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.
- **Therapies used in certain cases** work best for individuals with specific cancer features or health circumstances.

Guide 4

Initial treatment for locally advanced and metastatic pancreatic cancers

Options for the first treatment are based on performance status. A lower performance score means better overall health.

Performance status 0, 1, or 2

Options for locally advanced and metastatic cancers are:

- Joining a clinical trial (preferred)
- Systemic therapy

More options for some locally advanced cancers are:

- Chemotherapy followed by either chemoradiation or SBRT
- Chemoradiation or SBRT if you can’t have chemotherapy first

Performance status 3

Options are:

- Supportive care, including radiation therapy for symptom relief
- One chemotherapy drug or targeted therapy drug if appropriate

Preferred therapies for chemoradiation are capecitabine and fluorouracil. The other recommended therapy is gemcitabine.

There are many options for systemic therapy when used as the main treatment of pancreatic cancer. These options are explained in the next section.

First-line systemic therapy

The first regimen given is called first-line systemic therapy. Many of the same regimens are used for both locally advanced and metastatic cancers, but there are some differences in treatment options.

Your care team will consider results from genetic and biomarker testing to decide your options for systemic therapy.

Performance status 0 or 1

If you're in fairly good health, your team may recommend an intense regimen. Intense regimens often control cancer growth but can cause serious side effects. A list of first-line therapies for people with a good (low) performance status is in **Guide 5**.

Preferred therapies

Preferred therapies consist of multiple types of chemotherapy. Preferred therapies are FOLFIRINOX, gemcitabine-based chemotherapy, and NALIRIFOX.

FOLFIRINOX is a short name for leucovorin, fluorouracil, irinotecan, and oxaliplatin. It's an intense treatment. The modified FOLFIRINOX regimen may have less severe side effects. It includes a slow drip of fluorouracil instead of a fast injection.

Guide 5

First-line therapy if performance status is 0 or 1

These regimens are for people with pancreatic cancer and a good performance status.

Preferred therapies

Options for all cancers:

- Albumin-bound Paclitaxel, Gemcitabine
- FOLFIRINOX (Leucovorin, Fluorouracil, Irinotecan, Oxaliplatin) or modified FOLFIRINOX
- NALIRIFOX (Liposomal irinotecan, Fluorouracil, Leucovorin, Oxaliplatin)

Options for cancers with *BRCA1*, *BRCA2*, or *PALB2* mutations:

- Cisplatin, Gemcitabine
- FOLFIRINOX or modified FOLFIRINOX

Other recommended therapies

Options for all cancers:

- Capecitabine, Gemcitabine
- Erlotinib, Gemcitabine
- Gemcitabine
- Albumin-bound Paclitaxel, Cisplatin, Gemcitabine
- CAPEOX (Capecitabine, Oxaliplatin)
- GTX (Gemcitabine fixed-dose-rate, Docetaxel, Capecitabine)
- OFF (Oxaliplatin, Fluorouracil, Leucovorin)

More options for locally advanced cancers:

- Capecitabine
- Fluorouracil

Therapies used in certain cases

Based on biomarker testing:

- Dabrafenib, Trametinib
- Entrectinib or Larotrectinib or Repotrectinib
- Pembrolizumab
- Selpercatinib

6 Systemic therapy for primary treatment

Gemcitabine-based chemotherapy is an option for many cancers. Since platinum chemotherapy works better for cancers with *BRCA1*, *BRCA2*, or *PALB2* mutations, these cancers are treated with cisplatin and gemcitabine. Albumin-bound paclitaxel with gemcitabine is an option for cancers without these mutations.

NALIRIFOX is a short name for liposomal irinotecan, fluorouracil, leucovorin, and oxaliplatin. It's like FOLFIRINOX except irinotecan is made differently for this regimen.

Other recommended therapies

Other recommended therapies consist of one or more types of chemotherapy. They may extend life, delay cancer growth, and reduce symptoms.

Options include receiving one chemotherapy drug (gemcitabine, capecitabine, or fluorouracil). Or, these chemotherapies may be combined with each other or other medicines. For example:

- Gemcitabine may be combined with albumin-bound paclitaxel and cisplatin or combined with an EGFR kinase inhibitor called erlotinib.
- The CAPEOX regimen consists of capecitabine and oxaliplatin.
- The GTX regimen consists of gemcitabine, docetaxel, and capecitabine.
- The OFF regimen consists of oxaliplatin, fluorouracil, and leucovorin.

Therapies used in certain cases

Targeted therapy or immunotherapy is an additional option for some people:

- Dabrafenib with trametinib treats cancers with the *BRAF* V600E mutation.
- Larotrectinib, entrectinib, and repotrectinib treat cancers with an *NTRK* gene fusion.
- Pembrolizumab treats cancers with high microsatellite instability, mismatch repair deficiency, or high tumor mutational burden.
- Selpercatinib treats cancers with a *RET* gene fusion.

Performance status 2

If your performance status is 2, less intense regimens are used so that you likely won't have serious side effects from treatment. Options for people with a performance status of 2 are listed in **Guide 6**.

Chemotherapy is the preferred therapy. You may receive a one-drug regimen, such as capecitabine or gemcitabine. Other regimens combine different types of chemotherapy, such as albumin-bound paclitaxel and gemcitabine.

Additional preferred options for metastatic cancers are:

- CAPEOX (capecitabine, oxaliplatin)
- FOLFIRI (leucovorin, fluorouracil, irinotecan)
- FOLFOX (leucovorin, fluorouracil, oxaliplatin)

6 Systemic therapy for primary treatment

Based on biomarker testing, targeted therapy and immunotherapy are additional options for some people as explained above for good performance status.

Performance status 3

Your team will consider whether systemic therapy may help you. Options for people with a performance status of 3 are listed in **Guide 7**.

Preferred therapies for locally advanced cancers are gemcitabine, capecitabine, or fluorouracil.

There are no preferred therapies for metastatic cancers because of the small benefits of treatment. You may receive one chemotherapy drug or, depending on the results of biomarker testing, immunotherapy or targeted therapy.

Guide 6 First-line therapy if performance status is 2

These regimens are for people with pancreatic cancer and an intermediate performance status.

Preferred therapies

Options for all cancers:

- Albumin-bound Paclitaxel, Gemcitabine
- Capecitabine
- Gemcitabine

More options for metastatic cancers:

- CAPEOX (Capecitabine, Oxaliplatin)
- FOLFIRI (Leucovorin, Fluorouracil, Irinotecan)
- FOLFOX (Leucovorin, Fluorouracil, Oxaliplatin)

Therapies used in certain cases

Based on biomarker testing:

- Dabrafenib, Trametinib
- Entrectinib or Larotrectinib or Repotrectinib
- Pembrolizumab
- Selpercatinib

Guide 7 First-line therapy if performance status is 3

These regimens are for people with pancreatic cancer and poor performance status.

Preferred therapies

Options for locally advanced cancers:

- Gemcitabine
- Capecitabine
- Fluorouracil

Other recommended therapies

Options for metastatic cancers:

- Gemcitabine
- Capecitabine
- Fluorouracil

Therapies used in certain cases

Options for metastatic cancers based on biomarker testing:

- Pembrolizumab
- Larotrectinib or Entrectinib or Repotrectinib
- Dabrafenib, Trametinib

Planning care after first-line therapy

During treatment, your team will monitor your health and treatment results. You'll have a series of imaging scans to see if the cancer is growing or not. Your care team will also track your performance status.

If your performance status declined during treatment, it may mean that your overall health is now poor. In this case, you'll receive supportive care. Your team may recommend one-drug chemotherapy or targeted therapy.

If you're fairly healthy, the next steps of care are based on whether there are signs of cancer growth.

No signs of cancer growth

For locally advanced pancreatic cancer that has shrunk or is stable, the next options include:

- Having surgery, if all the cancer can be removed, as explained in *Chapter 7: Surgery for primary treatment*
- Continuing with first-line systemic therapy
- Joining a clinical trial
- Ongoing testing to watch for cancer growth

For metastatic pancreatic cancer that has shrunk or is stable after at least 4 to 6 months of therapy, the next options include:

- Maintenance therapy as described in the next section, and for some people, also local treatment of the metastasis
- Joining a clinical trial
- Taking a break from chemotherapy

Signs of cancer growth

For pancreatic cancer that has likely grown, the next options include:

- Joining a clinical trial is preferred
- Having second-line systemic therapy as explained later in this chapter, and if needed, local treatment of metastases

A third option is based on if the cancer is locally advanced or metastatic.

- Chemoradiation or SBRT for locally advanced cancer if not received before
- Radiation therapy for metastatic cancer that's causing severe pain not relieved by pain killers

Maintenance therapy for metastatic cancer

If first-line therapy controlled the growth of metastatic pancreatic cancer, your treatment may shift to maintenance therapy. The goal of maintenance therapy is to stop cancer growth for as long as possible.

Maintenance therapy is for people with a performance score of 0, 1, or 2. Choices of therapy are based on your prior regimen. NCCN has assigned levels of preference to their recommendations, which are listed in **Guide 8**.

For people with a *BCRA1* or *BCRA2* mutation, olaparib is the preferred therapy after having platinum-based chemotherapy. Cisplatin and

6 Systemic therapy for primary treatment

oxaliplatin are platinum chemotherapies. Rucaparib after platinum chemotherapy is also an option for people with *BRCA1*, *BRCA2*, or *PALB2* mutations.

After FOLFIRINOX, capecitabine is commonly used for maintenance therapy. If you had to stop taking FOLFIRINOX because of side effects, you may have more options. If oxaliplatin caused health issues, you may start taking fluorouracil and leucovorin or FOLFIRI. If irinotecan caused health issues, FOLFOX is an option for maintenance therapy.

If you took albumin-bound paclitaxel and gemcitabine, you may continue this treatment on a modified schedule or take only gemcitabine.

Second-line systemic therapy

Pancreatic cancer is often treated with multiple lines of therapy. Second-line therapy is the second regimen received.

NCCN recommendations for second-line therapy are explained in this section. Recommendations are based on performance status and have been assigned levels of preference.

If more lines of therapy are needed, the regimens in this section may be options.

Change or repeat regimen?

Changing or repeating a regimen depends on the number of months between the end of the prior treatment and the cancer growing again.

The prior regimen may be repeated if 6 or more months have passed since it was

Guide 8

Maintenance therapy for metastatic pancreatic cancer

After intense therapy, some pancreatic cancers that have spread far are treated with a less intense therapy to limit cancer growth.

Preferred therapies

If you had platinum-based chemotherapy, the option is:

- Olaparib for people with a *BRCA1* or *BRCA2* mutation

More options for metastatic cancers:

- CAPEOX (Capecitabine, Oxaliplatin)
- FOLFIRI (Leucovorin, Fluorouracil, Irinotecan)
- FOLFOX (Leucovorin, Fluorouracil, Oxaliplatin)

Other recommended therapies

If you had first-line FOLFIRINOX, the option is:

- Capecitabine

If you had Albumin-bound Paclitaxel with Gemcitabine, the options are:

- Albumin-bound Paclitaxel, Gemcitabine on a modified schedule
- Gemcitabine

Therapy used in certain cases

If you had FOLFIRINOX, the options are:

- FOLFIRI
- Fluorouracil, Leucovorin
- FOLFOX

If you had platinum-based chemotherapy, the option is:

- Rucaparib for people with *BRCA1*, *BRCA2*, or *PALB2* mutations

completed. Starting a different regimen is also an option. If less than 6 months have passed, a different regimen should be used for treatment.

Performance status 0 or 1

There are many options for second-line therapy if you're in fairly good health. A list of options is in **Guide 9**.

Preferred therapies

Second-line chemotherapy usually differs from the type you had before:

- Regimens with fluoropyrimidine (fluorouracil or capecitabine) are used after regimens with gemcitabine.
- Regimens with gemcitabine are used after fluoropyrimidine-based therapy.

One exception is fluorouracil, leucovorin, and liposomal irinotecan. This regimen may be an option even if you had fluorouracil before, but you must not have already had irinotecan.

Therapies used in certain cases

Targeted therapy is an option for some people:

- Adagrasib and sotorasib treat cancers with the *KRAS* G12C mutation, while dabrafenib and trametinib treat cancers with the *BRAF* V600E mutation.
- Entrectinib, larotrectinib, or repotrectinib treats cancers with an *NTRK* gene fusion, selpercatinib treats cancers with a *RET* gene fusion, and zenocutuzumab-zbco treats cancers with an *NRG1* gene fusion.

Guide 9

Second-line therapy if performance status is 0 or 1

These regimens are for people with pancreatic cancer and a good performance status.

Preferred therapies

If you've had gemcitabine-based therapy:

- Fluorouracil, Leucovorin, Irinotecan
- Capecitabine
- CAPEOX
- Fluorouracil
- Fluorouracil, Leucovorin
- FOLFIRI
- FOLFIRINOX or modified FOLFIRINOX
- FOLFOX
- OFF

If you've had fluoropyrimidine-based therapy:

- Albumin-bound Paclitaxel, Gemcitabine
- Cisplatin, Gemcitabine
- Erlotinib, Gemcitabine
- Fluorouracil, Leucovorin, Irinotecan
- Gemcitabine
- Albumin-bound Paclitaxel, Cisplatin, Gemcitabine

Therapies used in certain cases

Based on biomarker testing:

- Adagrasib or Sotorasib
- Dabrafenib, Trametinib
- Entrectinib or Larotrectinib or Repotrectinib
- Erdafitinib
- Fam-trastuzumab deruxtecan-nxki
- Selpercatinib
- Zenocutuzumab-zbco

If you haven't had immunotherapy:

- Dostarlimab-gxly
- Pembrolizumab
- Ipilimumab, Nivolumab

6 Systemic therapy for primary treatment

- Erdafitinib treats cancers with an *FGFR* genetic alteration.
- Fam-trastuzumab deruxtecan-nxki treats cancers that have HER2 overexpression.

If you haven't had immunotherapy before, your options may include:

- Dostarlimab-gxly if the cancer has high microsatellite instability or mismatch repair deficiency.
- Pembrolizumab for cancers with high microsatellite instability, mismatch repair deficiency, or high tumor mutational burden.
- Ipilimumab plus nivolumab if the cancer has high tumor mutational burden.

Performance status 2

NCCN recommendations for people with a performance status of 2 are given in **Guide 10**.

Preferred therapies

Chemotherapy is the preferred therapy:

- If you had fluorouracil or capecitabine, the cancer may be treated with albumin-bound paclitaxel and gemcitabine, or fluorouracil, leucovorin, and irinotecan.
- If you had gemcitabine-based chemotherapy, you may receive fluorouracil, leucovorin, and irinotecan, or FOLFOX.

Other recommended therapies

You may receive one chemotherapy drug. Gemcitabine is an option after having fluorouracil or capecitabine. Capecitabine or fluorouracil is an option after gemcitabine.

Guide 10 Second-line therapy if performance status is 2

These regimens are for people with pancreatic cancer and an intermediate performance status.

Preferred therapies

If you've had fluoropyrimidine-based therapy:

- Albumin-bound Paclitaxel, Gemcitabine
- Fluorouracil, Leucovorin, Irinotecan

If you've had gemcitabine-based therapy:

- Fluorouracil, Leucovorin, Irinotecan
- FOLFOX

Other recommended therapies

If you've had fluoropyrimidine-based therapy:

- Gemcitabine

If you've had gemcitabine-based therapy:

- Capecitabine
- Fluorouracil

Therapies used in certain cases

Based on biomarker testing:

- Adagrasib or Sotorasib
- Dabrafenib, Trametinib
- Entrectinib or Larotrectinib or Repotrectinib
- Erdafitinib
- Fam-trastuzumab deruxtecan-nxki
- Zenocutuzumab-zbco

If you haven't had immunotherapy:

- Dostarlimab-gxly
- Pembrolizumab
- Ipilimumab, Nivolumab

6 Systemic therapy for primary treatment

Therapies used in certain cases

Targeted therapy is an additional option for some people:

- Adagrasib and sotorasib treat cancers with the *KRAS* G12C mutation, while dabrafenib and trametinib treat cancers with the *BRAF* V600E mutation.
- Entrectinib, larotrectinib, or repotrectinib treats cancers with an *NTRK* gene fusion, and zenocutuzumab-zbco treats cancers with an *NRG1* gene fusion.
- Erdafitinib treats cancers with an *FGFR* genetic alteration.
- Fam-trastuzumab deruxtecan-nxki treats cancers that have HER2 overexpression.

If you haven't had immunotherapy before, your options may include:

- Dostarlimab-gxly if the cancer has high microsatellite instability or mismatch repair deficiency.
- Pembrolizumab for cancers with high microsatellite instability, mismatch repair deficiency, or high tumor mutational burden.
- Ipilimumab plus nivolumab if the cancer has high tumor mutational burden.

Performance status 3

Your team will consider whether systemic therapy may help you. NCCN recommendations for people with a performance status of 3 are listed in **Guide 11**.

- You may receive one chemotherapy drug.
- Based on biomarker testing, targeted therapy or immunotherapy may be options.

Guide 11 Second-line therapy if performance status is 3

These regimens are for people with pancreatic cancer and a poor performance status.

Other recommended therapies

If you've had fluoropyrimidine-based therapy:

- Gemcitabine

If you've had gemcitabine-based therapy:

- Capecitabine
- Fluorouracil

Therapies used in certain cases

Based on biomarker testing:

- Dabrafenib, Trametinib
- Entrectinib or Larotrectinib or Repotrectinib
- Erdafitinib
- Adagrasib or Sotorasib

If you haven't had immunotherapy:

- Pembrolizumab
- Dostarlimab-gxly

Key points

- Your care team will create a safe treatment plan for you based on your overall health.
- If cancer treatment could be too harsh on your body, you will receive supportive care. You may also receive a simple regimen of cancer drugs.
- If you can receive cancer treatment, your care team will prescribe a drug regimen that has the best chance of controlling the growth of the cancer and is unlikely to cause serious health issues.
- Some people with locally advanced cancer also receive chemoradiation or radiation therapy.
- Maintenance therapy for metastatic cancer stops cancer growth for as long as possible.

Questions to ask

- How did you decide what treatment is best for me? Did you use the results of genetic or biomarker testing?
- Are you suggesting options other than what NCCN recommends? If yes, why?
- What is the schedule, or cycles, of the systemic therapy?
- What should I expect while getting treated?

What's next?

It's common to have many concerns about cancer. Your care team will support you. More sources of support are listed in *Chapter 8: Other resources*.



**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)

7

Surgery for primary treatment

- 50 Stopping cancer growth before surgery
- 51 Options if cancer grows or slows
- 52 How pancreatic cancer is removed
- 54 Decisions during surgery
- 55 Killing unseen cancer cells after surgery
- 56 Follow-up care
- 57 If the cancer comes back
- 59 Key points
- 59 Questions to ask

7 Surgery for primary treatment

Surgery is the only current treatment that may cure pancreatic cancer. Other types of treatment are often used with surgery to improve outcomes.

This chapter describes types of pancreatic surgery and other procedures if surgery can't be completed. You will also learn about important factors care teams consider when deciding on other treatments.

Stopping cancer growth before surgery

Neoadjuvant therapy is cancer treatment that's given before the main treatment, which is surgery in this case. It treats cancer wherever it is in the body and may shrink pancreatic tumors to allow surgery.

Neoadjuvant therapy is sometimes the first treatment of resectable pancreatic cancer. Resectable means the cancer isn't touching any blood vessels and can be removed from the body. Many treatment centers start with neoadjuvant therapy because pancreatic cancers often have spread outside of the pancreas by diagnosis.

Pancreatic cancer that's borderline resectable is usually first treated with neoadjuvant therapy. Borderline resectable cancers are challenging to remove or touch important blood vessels.

Neoadjuvant systemic therapy

Systemic therapy is used for neoadjuvant therapy. A regimen of systemic therapy consists of one or more prescription drugs that are taken at a specific dose, schedule, and length of time.

All regimens listed in this guide are recommended and appropriate. NCCN experts assign a level of preference to regimens.

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

Recommended neoadjuvant options

NCCN recommends that neoadjuvant treatment be received at or managed by a high-volume center. You may receive up to 6 months of treatment. The duration of treatment varies among people.

Research on which cancer drugs work best for neoadjuvant therapy is ongoing. Joining a clinical trial is encouraged. NCCN recommendations for neoadjuvant therapy are listed in **Guide 12**.

Preferred therapies include FOLFIRINOX and a gemcitabine combination.

FOLFIRINOX is a short name for leucovorin, fluorouracil, irinotecan, and oxaliplatin. You may get the modified FOLFIRINOX

7 Surgery for primary treatment

regimen instead, which includes a slow drip of fluorouracil and not the faster injection. Only people with a performance status of 0 or 1 can receive FOLFIRINOX and modified FOLFIRINOX.

The gemcitabine combination used for most pancreatic cancers is albumin-bound paclitaxel and gemcitabine. Since platinum chemotherapy works better for pancreatic cancers with *BRCA1*, *BRCA2*, or *PALB2* mutations, an option for these cancers is cisplatin and gemcitabine.

PAXG (cisplatin, albumin-bound paclitaxel, capecitabine, and gemcitabine) is a therapy used in certain cases.

Consolidation chemoradiation

Some people have consolidation chemoradiation after neoadjuvant chemotherapy. The goals of consolidation are to strengthen the results of treatment and improve the chance of a cure. The preferred regimens for chemoradiation are capecitabine and fluorouracil. Another recommended therapy is gemcitabine.

Guide 12

Neoadjuvant chemotherapy for pancreatic cancer

Chemotherapy before surgery has benefits. These are regimens recommended by NCCN.

Preferred therapies

Option 1: FOLFIRINOX (Leucovorin, Fluorouracil, Irinotecan, Oxaliplatin)

Option 2: One of these gemcitabine combinations

- Albumin-bound paclitaxel, Gemcitabine
- Cisplatin, Gemcitabine – Works better for pancreatic cancers with *BRCA1*, *BRCA2*, or *PALB2* mutations

Therapies used in certain cases

PAXG (Cisplatin, Albumin-bound Paclitaxel, Capecitabine, Gemcitabine)

Options if cancer grows or slows

The next treatment after neoadjuvant therapy depends on how well treatment worked.

Tests to assess treatment results

You will have some tests that were done before. Tests that will be repeated are:

- Pancreatic protocol computed tomography (CT) or magnetic resonance imaging (MRI) of the abdomen
- CT scan of the chest and pelvis
- CA 19-9, CEA, and CA-125 blood test
- Positron emission tomography with CT or MRI (PET/CT or PET/MRI scan), if your care team thinks it's needed

Your team will assess if the tumor is smaller and if tumor markers in your blood are lower. If PET was done, your team will look for less metabolic activity.

Treatment had an effect

If treatment had a large effect, surgery is an option.

If there were no changes or treatment effects were small, options are:

- Surgery
- A different chemotherapy with or without chemoradiation or radiation therapy

Treatment didn't have an effect

When cancer worsens, it may be treated with more neoadjuvant therapy if surgery still seems possible. If surgery is not an option, read about treatment options listed in *Chapter 6: Systemic therapy for primary treatment*.



Advocate for yourself! Don't be afraid to ask for a second opinion. Don't be afraid to ask for help from friends and family who just want to be told what you need, whether that means food, a ride, help around the house, or to be left alone to rest."

How pancreatic cancer is removed

Your surgeon will schedule surgery if there's a good chance that all of the cancer can be removed. They must see a way to remove the tumor with enough normal-looking tissue at its edge. This normal-looking tissue is called the surgical margin. The goal is to have no cancer cells in the margin so that a cure is likely.

Methods to perform surgery

Your surgeon will remove tissue with 1 of 2 methods. The classic (or open) method is called laparotomy. The newer method is a less invasive surgery called laparoscopic surgery or robotic surgery.

Surgeons perform laparotomy through a cut in the belly area called the abdomen. Through the cut, your surgeon can see and access the pancreatic tumor.

Laparoscopic and robotic surgeries are done through several smaller cuts made in your abdomen. Your surgeon will insert surgical tools through the cuts. One of the tools is a laparoscope, which has a small video camera. The video of your inner abdomen will be displayed on a screen so the surgeon can guide the tools during surgery.

Types of surgery

The type of surgery you have depends on where the tumor is in the pancreas and how much it touches blood vessels.

7 Surgery for primary treatment

Surgery for a tumor in the pancreas head

The pancreas head is the right-sided part of the pancreas. A tumor in the pancreas head is treated with a pancreatoduodenectomy (also called a **Whipple procedure**). This surgery removes these body parts:

- Some of the pancreas, common bile duct, and the first part of the small intestine
- Gallbladder
- Nearby lymph nodes
- At times, some of the stomach

A pylorus-preserving procedure does not remove part of the stomach but a classic Whipple procedure does.

Surgery for a tumor in the pancreas body or tail

The pancreas body is the middle of the pancreas, and the tail is the narrow left-sided part. A tumor in the pancreas body or tail is treated with a **distal pancreatectomy** and en bloc splenectomy.

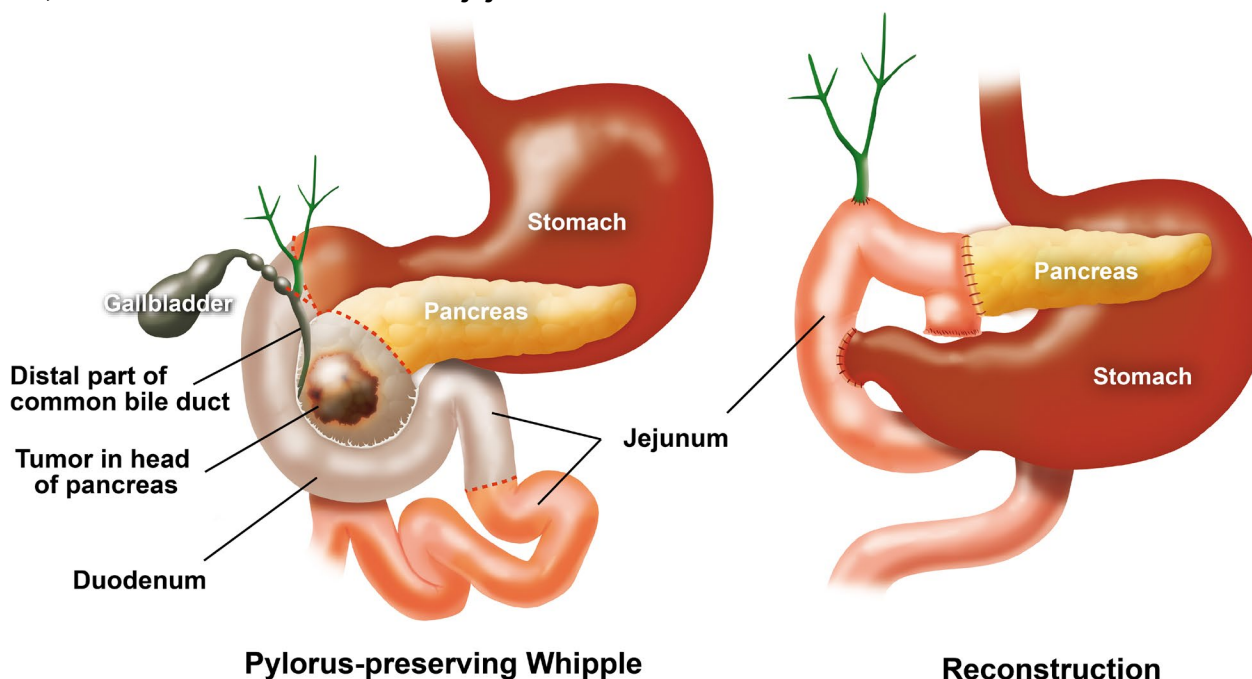
A distal pancreatectomy removes the body and tail of the pancreas, and an en bloc splenectomy removes the entire spleen. The spleen is removed since pancreatic cancer often attaches to its blood vessels. The left adrenal gland might also be removed.

Surgery for a tumor in the pancreas neck

The pancreas neck is between the head and body of the pancreas. A tumor in the pancreas

Whipple procedure

A Whipple procedure is a type of pancreatic surgery. It is also called a pancreatoduodenectomy. This surgery removes at least the gallbladder and some of the pancreas, common bile duct, and small intestine (gray-colored parts in left image). The image on the right shows the pancreas, bile duct, and stomach attached to the jejunum after reconstruction.



7 Surgery for primary treatment

neck may be treated with an extended Whipple procedure, an extended distal pancreatectomy, or a total pancreatectomy.

An extended Whipple procedure and extended distal pancreatectomy remove more tissue than standard surgeries.

A **total pancreatectomy** removes these body parts:

- Pancreas, spleen, and gallbladder
- Some of the stomach, small intestine, and common bile duct
- Nearby lymph nodes
- At times, parts of blood vessels

Reconstruction

After removing the cancer, your surgeon will rebuild cut tissues. This is called reconstruction. New connections between body parts will be made. Blood vessels may also need to be reconstructed.

Decisions during surgery

Sometimes the goals of surgery change during the operation. Your surgeon will explore your inner abdomen to see if the cancer has spread far. Metastatic cancer may not be seen in imaging scans but then is found during surgery. If metastatic cancer is found, pancreatic surgery should not be done.

Pancreatic surgeries are also not completed if the tumor can't be safely removed. Your surgeon has a better view of the tumor during surgery. They may see that the tumor has grown so much around blood vessels that it can't be removed.

If your surgeon discovers the cancer can't be taken out during surgery, they may perform other procedures while you're still under anesthesia:

- Celiac plexus neurolysis is an injection of a nerve block into a nerve bundle called the celiac plexus to reduce pain.
- Gastrojejunostomy is a surgery that connects part of the stomach to the jejunum (part of the small intestine) so that food doesn't get blocked by the tumor.
- A biliary bypass is a surgery for when the bile duct is blocked, which can cause jaundice. The surgery connects the small intestine to the common bile duct above the pancreas to bypass the blockage.
- Instead of a bypass, placement of a small, expandable tube (stent) into the bile duct may be done to treat jaundice.

When surgery isn't completed, the cancer will be treated by other methods to try to control its growth. Recommendations for treatment are in *Chapter 6: Systemic therapy for primary treatment*.

Killing unseen cancer cells after surgery

Adjuvant therapy is cancer treatment that follows the main treatment. It kills cancer cells that weren't removed during surgery because they couldn't be seen. Killing remaining cancer cells lowers the chance of cancer returning.

Adjuvant therapy can start when you've recovered enough from surgery. It's ideal to start within 12 weeks after surgery.

Tests before adjuvant therapy

Before adjuvant therapy, a few tests will be done to check for metastases and to serve as a baseline for future tests. You will have:

- CT scans with contrast of the chest, pelvis, and abdomen
- CA 19-9 blood test

If test results suggest there are metastases, a biopsy is needed to confirm. Recommendations for treatment are in *Chapter 6: Systemic therapy for primary treatment*.

Options for adjuvant therapy

Chemotherapy is used for adjuvant therapy. It may be the only treatment. Or it may be given with radiation therapy, which is called chemoradiation.

The recommended regimens for chemotherapy are given in **Guide 13**.

Your team will plan adjuvant therapy based on whether you had neoadjuvant therapy.

If you had neoadjuvant therapy

Adjuvant therapy may not be needed if there are no signs of cancer. Your team will decide if more treatment may be helpful.

Guide 13

Adjuvant chemotherapy for pancreatic cancer

After surgery, chemotherapy may be used alone or with radiation therapy to kill unseen cancer cells. These are regimens recommended by NCCN.

Chemotherapy	Preferred therapies • Capecitabine, Gemcitabine • Modified FOLFIRINOX Other recommended therapies • Fluorouracil, Leucovorin • Gemcitabine • Fluorouracil • Capecitabine
Chemotherapy received before or after chemoradiation	Other recommended therapies • Fluorouracil, Leucovorin • Fluorouracil • Gemcitabine
Chemoradiation	Preferred therapies • Capecitabine • Fluorouracil Other recommended therapies • Gemcitabine

7 Surgery for primary treatment

Options for adjuvant therapy are based on the results of neoadjuvant therapy and other factors. You may have:

- More chemotherapy
- Chemoradiation as needed and if you didn't have it before

Chemotherapy is usually received for up to 6 months, including the cycles received before surgery.

If you didn't have neoadjuvant therapy

There are 3 treatment options:

- Joining a clinical trial is the preferred option
- Chemotherapy
- Chemotherapy then chemoradiation as needed then possibly more chemotherapy

Follow-up care

Once there are no signs of cancer, surveillance is started. Surveillance is ongoing testing to see if the cancer has returned, which is called a recurrence.

Surveillance tests

You'll meet with your team as needed for these tests:

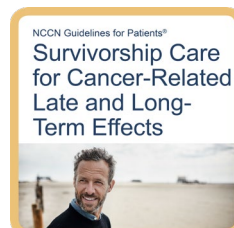
- Medical history and physical exam to assess symptoms
- CA 19-9 levels
- CT scan of the chest
- CT or MRI scan of the abdomen and pelvis with contrast

Other scans may be done if your team is concerned about cancer spread.

Checking for side effects

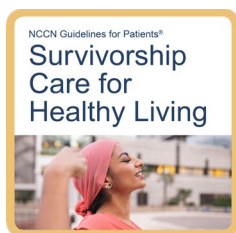
In addition to surveillance, your team will ask about side effects of the cancer and treatment. Many side effects of treatment quickly resolve after treatment ends. Some effects persist or start long after treatment has ended.

Read about management of common side effects in *NCCN Guidelines for Patients: 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.



Setting goals for healthy living

It's important for everyone to start or keep a healthy lifestyle—but it's even more important for people who've had cancer. Healthy living can prevent disease. Your team will help you set and reach goals. Learn about goals for healthy living in *NCCN Guidelines for Patients: Survivorship Care for Healthy Living*.



“

As a lung cancer survivor, I've learned the importance of my voice and advocating on my own behalf. There is power and profound healing in telling our stories out loud AND in our own voices.”

If the cancer comes back

Surveillance tests may find signs of pancreatic cancer. In this case, your care team may want a biopsy to confirm there is cancer. If not done before, genetic and biomarker tests are needed to help plan treatment.

Treatment of a recurrence is based on where the cancer is located. See **Guide 14** to learn the treatment options for a recurrence.

Surgery

If cancer is found only in the pancreas, surgery may be an option. You'll need a surgical consult and a multidisciplinary team review of your test results.

Clinical trial

Enrolling in a clinical trial may be an option. Ask your care team if there is a clinical trial that's a good fit for you. If there is an open trial, NCCN recommends this option over other options.

Systemic therapy

Systemic therapy is an option for cancer that returned near or far from the removed pancreas. Treatment for recurrence is based on these time frames:

- If you had chemotherapy less than 6 months ago, you'll be switched from gemcitabine-based chemotherapy to fluoropyrimidine-based chemotherapy or the other way around. If you've had both of these therapies, a different chemotherapy will be started.
- If you had chemotherapy 6 or more months ago, you may repeat the same regimen you had before or start a new systemic therapy.

7 Surgery for primary treatment

There are many options for systemic therapy. The regimens used for recurrence are the same as those used for second-line therapy listed in *Chapter 6: Systemic therapy for primary treatment*.

If cancer returns near the area where the pancreas was removed, your team may recommend chemoradiation or stereotactic body radiation therapy (SBRT) in addition to systemic therapy.

Preferred regimens for chemoradiation are capecitabine and fluorouracil. The other recommended therapy is gemcitabine.

Radiation therapy

A recurrence near the area where the pancreas was removed may be treated with SBRT only. This treatment approach is not widely used for a local recurrence. It may be an option for people who can't have systemic therapy.

Supportive care

Cancer treatment is too harsh for some people. In this case, NCCN advises receiving supportive care. Supportive care aims to improve your quality of life. One of its aims is to treat symptoms caused by cancer. Talk with your team to get the best supportive care plan for you. More information on supportive care is in *Chapter 4: Supportive care for cancer complications*.

Guide 14

Treatment for pancreatic cancer that came back after surgery

Options for treatment depend on where the pancreatic cancer returned. The cancer may have returned in the pancreas, in the area where the pancreas used to be, or in distant body parts.

The cancer is in only the pancreas

- Surgery may be an option

The cancer is in the area where the pancreas was removed

There are 5 options:

- Joining a clinical trial is the preferred option
- Systemic therapy
- Systemic therapy followed by either chemoradiation or SBRT, if not received before
- SBRT
- Supportive care

The cancer is far from where the pancreas is or was

There are 3 options:

- Joining a clinical trial is the preferred option
- Systemic therapy
- Supportive care

Key points

- Pancreatic cancer may be treated with surgery if there are no clear signs of metastases. Also, it must be very likely that surgery can safely remove all of the cancer.
- Resectable pancreatic cancer can be surgically removed but first may be treated with chemotherapy. Borderline resectable pancreatic cancer must first be treated with chemotherapy to shrink it for surgery. Some people receive chemoradiation after chemotherapy.
- Surgery for pancreatic cancer removes part of or the whole pancreas. The type of surgery you receive depends on where the cancer is in the pancreas.
- If your surgeon is unable to remove the tumor, procedures to prevent or relieve symptoms may be done instead.
- After pancreatic surgery, you may receive more treatment to kill any cancer cells that remain in your body. Chemotherapy and chemoradiation are options.
- When cancer treatment is finished, follow-up care is started. Your care team will check for signs of the cancer returning. You'll also receive care for side effects and help to live a healthy life.

Questions to ask

- Do you recommend that I have neoadjuvant therapy, adjuvant therapy, or both?
- What type of surgery makes the most sense for me?
- How long will I need to be in the hospital for surgery?
- How long is recovery after the surgery?
- What happens during follow-up care?

What's next?

It's common to have many concerns about cancer. Your care team will support you. More sources of support are listed in *Chapter 8: Other resources*.

8

Other resources

- 61 What else to know
- 61 What else to do
- 61 Where to get help
- 62 Questions to ask

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 health and treatment options
- Finding a care provider who specializes in pancreatic cancer
- Getting financial help
- Coping with other health issues
- Making an advance care plan

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.

AnCan Foundation

ancan.org

Bone Marrow & Cancer Foundation

bonemarrow.org

CancerCare

cancercares.org

Cancer Hope Network

cancerhopenetwork.org

FORCE: Facing Our Risk of Cancer Empowered

facingourrisk.org

GRACE

cancergrace.org

Hirshberg Foundation for Pancreatic Cancer Research

pancreatic.org

Imerman Angels

imermanangels.org

Lustgarten Foundation

lustgarten.org

My Faulty Gene

myfaultygene.org

PAN Foundation
panfoundation.org

Pancreatic Cancer Action Network (PanCAN)
pancan.org

TargetCancer Foundation
targetcancer.org

The Seena Magowitz Foundation
seenamagowitzfoundation.org

Triage Cancer
triagecancer.org

Questions to ask

- How do I find an oncologist who's an expert in pancreatic cancer?
- What are the steps to get a second opinion?
- How much will I have to pay for my treatment and what help is available for these costs?
- How can I connect with others and build a support system?



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.

NCCN.org/patients/feedback



Words to know

adjuvant therapy

Treatment that is given after the main treatment to lower the chances of the cancer returning.

anticoagulant

A drug that slows down the time it takes for blood to clot.

bile duct

A small tube-shaped structure that drains fluid called bile from the liver.

biliary bypass

Surgery that re-routes the flow of bile into the small intestine.

biomarker

Any molecule in your body that can be measured and shows a normal process, abnormal process, condition, or disease.

biopsy

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

borderline resectable pancreatic cancer

Pancreatic cancer that has minor involvement with nearby parts of the body, such as blood vessels.

carbohydrate antigen (CA) 19-9

A protein made by some types of cancer found in blood. High CA 19-9 levels in the blood are a tumor marker of pancreatic cancer.

cancer stage

A rating of the outlook of a cancer based on its growth and spread.

carcinoembryonic antigen (CEA)

A marker of pancreatic cancer.

celiac plexus neurolysis

Injection of a nerve block into a nerve bundle called the celiac plexus.

chemoradiation

Treatment that combines chemotherapy and radiation therapy.

chemotherapy

Treatment with cancer drugs that kills fast-growing cells.

common bile duct

A tiny tube that carries a fluid called bile from the liver into the intestine.

computed tomography (CT)

A test that uses x-rays from many angles to make a picture of the inside of the body.

contrast

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

direct oral anticoagulant

A medicine that disables the proteins that help blood to clot.

distal pancreatectomy

Surgery that removes the widest part (body) and narrow end (tail) of the pancreas as well as other nearby organs.

ECOG

Eastern Cooperative Oncology Group

endoscopic retrograde cholangiopancreatography (ERCP)

A procedure that uses x-rays and a medical device that is guided down the throat.

endoscopic ultrasound (EUS)

A procedure that takes detailed pictures inside of the body with a device guided down the throat.

external beam radiation therapy (EBRT)

Radiation therapy received from a machine outside of the body.

first-line therapy

The first treatment given to treat a disease. Might be followed by second-line or more lines of treatment.

gastrojejunostomy

Surgery to bypass a blocked stomach.

GI

gastrointestinal

hereditary pancreatic cancer

Cancer in a person who has an inherited high risk of getting the cancer.

high-volume center

A care center that treats a large number of people with cancer each year.

immune checkpoint inhibitor

A type of immunotherapy.

immunotherapy

A drug treatment that helps the body's immune system find and destroy cancer cells.

jaundice

Yellowing of the skin and eyes due to a buildup of bilirubin in the body.

jejunostomy tube (J-tube)

A feeding tube that is inserted through the skin into the small intestine.

laparoscopy

A procedure that inserts thin tools through small cuts to do work inside of the belly area.

liver function test

A lab test on a blood sample that measures chemicals made or processed by the liver.

locally advanced pancreatic cancer

Pancreatic cancer that has major involvement with nearby parts of the body, such as blood vessels.

low-molecular weight heparin (LMWH)

A medicine that enhances the effect of a natural anticoagulant in the body that lowers the risk of blood clots.

magnetic resonance**cholangiopancreatography (MRCP)**

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

magnetic resonance imaging (MRI)

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

medical oncologist

A doctor who is an expert in cancer drugs.

metastasis

The spread of cancer from the place where it started to another part of the body.

neoadjuvant therapy

Treatment given before the main treatment to reduce cancer.

pancreatic protocol

Methods of imaging that improve pictures of the pancreas.

pancreatoduodenectomy

Surgery to remove the widest part (head) of the pancreas and parts of other nearby organs. Also called Whipple procedure.

pathologist

A doctor who is an expert in testing cells and tissue to find disease.

PDAC

pancreatic ductal adenocarcinoma

percutaneous endoscopic gastrostomy (PEG) tube

A feeding tube inserted through a cut in the abdomen and into the stomach. Also called a gastrostomy tube (G-tube).

performance status

A rating of a person's overall health and ability to do daily activities.

positron emission tomography (PET)

A test that uses radioactive material to show the shape and function of tissue.

radiation therapy

The use of high-energy rays to destroy cancer cells.

recurrence

The return of cancer after treatment.

regimen

A plan that defines the dosage, schedule, and duration of a treatment.

resectable pancreatic cancer

Cancer that can be completely removed with surgery.

second-line therapy

The second treatment given when the first treatment does not work or stops working.

stent

A small, expandable tube.

stereotactic body radiation therapy (SBRT)

Treatment with high-dose radiation to smaller areas over 1 to 5 sessions.

supportive care

Cancer care given to improve quality of life. Also called palliative care.

surveillance

Ongoing testing to watch for cancer growth when not receiving cancer treatment.

systemic therapy

A drug treatment that travels in the bloodstream to reach cancer wherever it is.

total pancreatectomy

Surgery to remove the entire pancreas and other nearby organs and tissues.

targeted therapy

A drug treatment that identifies and kills certain kinds of cancer cells.

vitamin K blocker

A medicine that stops the liver from using vitamin K and reduces the risk of blood clots.

Whipple procedure

Surgery to remove the head of the pancreas and parts of other nearby organs. Also called pancreatoduodenectomy.

NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Pancreatic Adenocarcinoma, Version 2.2026. It was adapted, reviewed, and published with help from the following people:

Dorothy A. Shead, MS
Senior Director
Patient Information Operations

Laura J. Hanisch, PsyD
Patient Information Program Manager

Lisa Diehl
Production Layout Artist

The NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Pancreatic Adenocarcinoma, Version 2.2026, were developed by the following NCCN Panel Members:

Andrew H. Ko, MD/Chair
UCSF Helen Diller Family
Comprehensive Cancer Center

Mokenge P. Malafa, MD/Vice Chair
Moffitt Cancer Center

Olca Basturk, MD
Memorial Sloan Kettering Cancer Center

Al B. Benson III, MD
Robert H. Lurie Comprehensive Cancer
Center of Northwestern University

Dana B. Cardin, MD
Vanderbilt-Ingram Cancer Center

E. Gabriela Chiorean, MD
Fred Hutchinson Cancer Center

Jared A. Christensen, MD
University of Michigan Rogel Cancer Center

Vincent Chung, MD
City of Hope National Medical Center

Brian Czito, MD
Duke Cancer Institute

Marco Del Chiaro, MD, PhD
University of Colorado Cancer Center

Mary Dillhoff, MD, MS
The Ohio State University Comprehensive
Cancer Center - James Cancer Hospital
and Solove Research Institute

Timothy R. Donahue, MD
UCLA Jonsson
Comprehensive Cancer Center

***Christos Fountzilas, MD**
Roswell Park Comprehensive Cancer Center

Jeffrey Hardacre, MD
Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer Center
and Cleveland Clinic Taussig Cancer Institute

Kelsey Klute, MD
Fred & Pamela Buffett Cancer Center

John W. Kunstman, MD, MHS
Yale Cancer Center/Smilow Cancer Hospital

Kian-Huat Lim, MD, PhD
Siteman Cancer Center
at Barnes-Jewish Hospital
and WashU Medicine

Noelle LoConte, MD
University of Wisconsin
Carbone Cancer Center

Andrew M. Lowy, MD
UC San Diego Moores Cancer Center

Ashiq Masood, MD
Indiana University Melvin and Bren Simon
Comprehensive Cancer Center

***Cassadie Moravek, BS**
Pancreatic Cancer Action Network

Eric K. Nakakura, MD
UCSF Helen Diller Family
Comprehensive Cancer Center

Amol K. Narang, MD
Johns Hopkins Kimmel Cancer Center

***Lorenzo Nardo, MD, PhD**
UC Davis Comprehensive Cancer Center

Jorge Obando, MD
Duke Cancer Institute

Patricio M. Polanco, MD
UT Southwestern Simmons
Comprehensive Cancer Center

George Poultsides, MD, MS
Stanford Cancer Institute

Sushanth Reddy, MD
O'Neal Comprehensive
Cancer Center at UAB

Marsha Reyngold, MD, PhD
Memorial Sloan Kettering Cancer Center

Courtney Scaife, MD
Huntsman Cancer Institute
at the University of Utah

***Ardaman Shergill, MD**
The UChicago Medicine
Comprehensive Cancer Center

***Mark J. Truty, MD, MS**
Mayo Clinic Comprehensive Cancer Center

Charles Vollmer Jr, MD
Abramson Cancer Center
at the University of Pennsylvania

David Weinberg, MD, MSc
Fox Chase Cancer Center

Robert A. Wolff, MD
The University of Texas
MD Anderson Cancer Center

Brian M. Wolpin, MD, MPH
Dana-Farber Cancer Institute

NCCN

Beth McCullough, RN, BS
Guidelines Coordinator

Swathi Ramakrishnan, PhD
Oncology Scientist/Medical Writer

Sydney L. Roth, BS
Guidelines Layout Specialist

* Reviewed this patient guide. For disclosures, visit [NCCN.org/disclosures](https://www.nccn.org/disclosures).

NCCN Cancer Centers

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

Abramson Cancer Center
at the University of Pennsylvania
Philadelphia, Pennsylvania

Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer Center and
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

O'Neal Comprehensive Cancer Center at UAB
Birmingham, Alabama

Robert H. Lurie Comprehensive Cancer Center
of Northwestern University
Chicago, Illinois

Roswell Park Comprehensive Cancer Center
Buffalo, New York

Siteman Cancer Center at Barnes-Jewish Hospital
and WashU Medicine
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
New Haven, Connecticut

Notes

Index

- adjuvant therapy** 55–56
- bile duct** 11–13, 28, 53, 54
- biomarker testing** 6, 13, 16, 22–23, 40, 42, 47
- biopsy** 13–14, 55, 57
- borderline resectable** 35, 50
- CA 19-9** 13, 16, 51, 55–56
- cancer stage** 10, 13, 34–35
- chemoradiation** 25, 39–40, 43, 51–52, 55–56, 58
- chemotherapy** 13, 20–23, 25, 29–30, 38–47, 51, 52, 55–57
- clinical trial** 7, 19–20, 38, 43, 50, 56–57
- computed tomography (CT)** 10–11, 14, 51, 55–56
- distal pancreatectomy** 53–54
- endoscopic retrograde cholangiopancreatography (ERCP)** 12, 14, 28
- endoscopic ultrasound** 12, 14, 30
- first-line therapy** 40, 43
- gastrojejunostomy** 29, 54
- immunotherapy** 23, 38, 41–42, 46–47
- jaundice** 28, 54
- laparoscopy** 12–13
- liver function test** 13
- locally advanced** 35, 38–40, 42–43
- magnetic resonance imaging (MRI)** 10–11, 51, 56
- medical oncologist** 20
- neoadjuvant therapy** 50–52, 55–56
- pancreatic protocol** 10–11, 51
- pancreatoduodenectomy** 53
- pathologist** 13
- performance status** 35, 38–47, 51
- positron emission tomography (PET)** 11, 51
- radiation therapy** 10, 24–25, 30–31 39, 43, 52, 55, 58
- recurrence** 56, 57–58
- resectable** 35, 50
- stereotactic body radiation therapy (SBRT)** 25, 39, 43, 58
- supportive care** 6, 27, 38–39, 43, 58
- surveillance** 56–57
- systemic therapy** 6, 34–35, 38–40, 42–44, 47, 50, 57–58
- targeted therapy** 22–23, 38, 41–43, 45, 47
- total pancreatectomy** 54
- Whipple procedure** 53–54



NCCN Guidelines for Patients[®]

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

Pancreatic Cancer

To support the NCCN Guidelines for Patients, visit

NCCNFoundation.org/Donate



National Comprehensive
Cancer Network[®]

3025 Chemical Road, Suite 100
Plymouth Meeting, PA 19462
215.690.0300

NCCN.org/patients – For Patients | NCCN.org – For Clinicians

PAT-N-1974-0926