

# What You Should Know About PANCREATIC CANCER

Pancreatic cancer is an aggressive form of cancer that develops in the tissues of the pancreas. Located in the abdomen behind the lower part of the stomach, the pancreas aids in digestion. It contains both exocrine glands (which produce enzymes that help the body digest food) and endocrine glands (which produce hormones, including insulin, that help control blood sugar levels in the body).

## Did you know?

Pancreatic cancer is the **third leading cause of cancer-related deaths** in the United States.



Approximately  
**64,050 people**  
will be diagnosed with  
pancreatic cancer in 2023.



Smoking is  
responsible for  
**20%-30%**  
of pancreatic cancers.

The average estimated **lifetime risk**  
of developing pancreatic cancer is:

**1 in 65** (1.5%)

## RISK FACTORS



**TOBACCO USE**



**AGE**

(Nearly 90% of pancreatic cancers are diagnosed in people age 55+)



**GENDER**

(Men are 30% more likely to develop pancreatic cancer than women)



**PHYSICAL  
INACTIVITY**



**GENETIC**



**DIABETES**

## TREATMENT OPTIONS



### SURGERY

- **Laparoscopic resection**
- **Whipple procedure (pancreatoduodenectomy):** Used to remove cancer in the head of the pancreas or bile ducts by removing the cancerous tissue and performing immediate reconstruction
- **Distal (partial) pancreatectomies**
- **Total pancreatectomy**
- **Robotic surgery:** A minimally invasive alternative to open surgery and laparoscopy; requires only a few tiny incisions; offers surgeons better control, precision and visual access
- **Palliative procedures:** May be recommended to reduce liver damage, pain and other side effects when patients cannot undergo surgery or experience other complications



### RADIATION THERAPY

- **External beam radiation therapy:** A machine outside the body directs radiation at cancerous cells within the body. (Examples: 3D conformal radiation therapy, IMRT, IGRT, stereotactic radiosurgery)
- **Internal radiation therapy:** Radioactive material is placed directly into or near a tumor, via a catheter or other carrier. (Example: high-dose rate brachytherapy)
- **Systemic radiation therapy:** A radioactive substance is swallowed or injected, traveling via the bloodstream throughout the body, where it searches for and destroys cancerous cells. (Example: radioactive iodine therapy)



### CHEMOTHERAPY

If pancreatic cancer chemotherapy is part of your personal treatment plan, your medical oncologist will use a combination of chemotherapy medications customized to your individual needs. Chemotherapy may be used alone, or in combination with other pancreatic cancer treatments like radiation therapy or surgery.



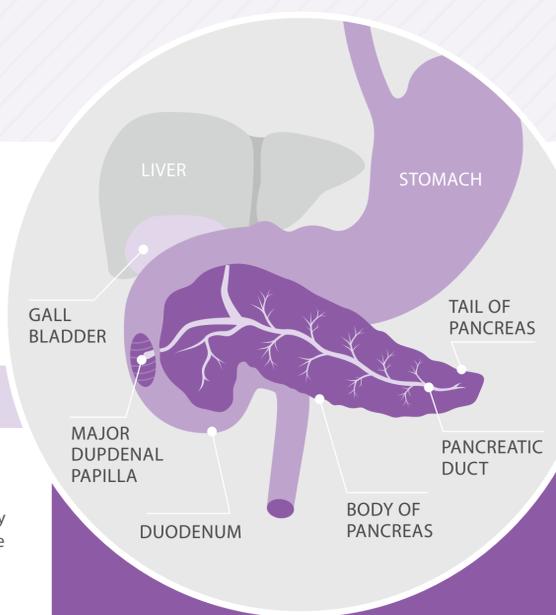
### GASTROENTEROLOGY

- **ERCP (endoscopic retrograde cholangiopancreatography):** Allows the gastroenterologist to view the bile ducts in the pancreas in order to remove samples for biopsy, relieve an obstruction of the bile duct or place a stent into a narrowed duct to keep it open
- **Endoscopic ultrasound (EUS):** Uses high-quality images of the pancreas to deliver targeted treatment directly to a pancreatic mass
- **Fiducial markers (placed inside tumors):** Allows for more precise targeting of tumors and helps reduce harm to healthy tissue
- **Drainage of pancreatic pseudocysts**
- **Celiac plexus neurolysis (CPN):** Helps with pain relief by blocking the nerves that supply the pancreas
- **Endoscopic mucosal resection (EMR)**
- **Stent placements**
- **Photodynamic therapy (PDT)**



### INTERVENTIONAL RADIOLOGY

Interventional radiology is a medical specialty in which trained physicians perform minimally invasive procedures to diagnose and treat various diseases. Interventional radiologists are trained to use image-guided technology such as X-rays, computed tomography (CT) scans and magnetic resonance imaging (MRI) to place a catheter inside the body and treat tumors non-surgically. As an alternative to open surgery, interventional radiology procedures may reduce risk, pain and recovery time for patients.



## TYPES OF PANCREATIC CANCER

There are **two** types of pancreatic cancer: one affecting the exocrine gland, the other affecting the endocrine gland.

- **Exocrine tumors**  
Most tumors affecting the exocrine gland are called adenocarcinomas. This type of cancer forms in the pancreatic ducts. Treatment for these tumors is based on stage of growth.
- **Endocrine tumors**  
These tumors are less common and are most often benign. Though rare, cancer stemming from a pancreatic endocrine tumor (PET) affects the hormone-producing cells. These tumors are also called islet cell tumors or neuroendocrine tumors.

## SYMPTOMS



- **Jaundice** (yellowing of the skin and whites of the eyes)
- **Digestive problems, including abnormal stools, nausea and vomiting**
- **Pain in the upper abdomen and back**
- **Loss of appetite**
- **Nausea**
- **Sudden weight loss**
- **Swollen gallbladder**
- **Blood clots**

To learn more, go to [www.cancercenter.com/pancreatic-cancer/](http://www.cancercenter.com/pancreatic-cancer/)

SOURCES  
cancer.org