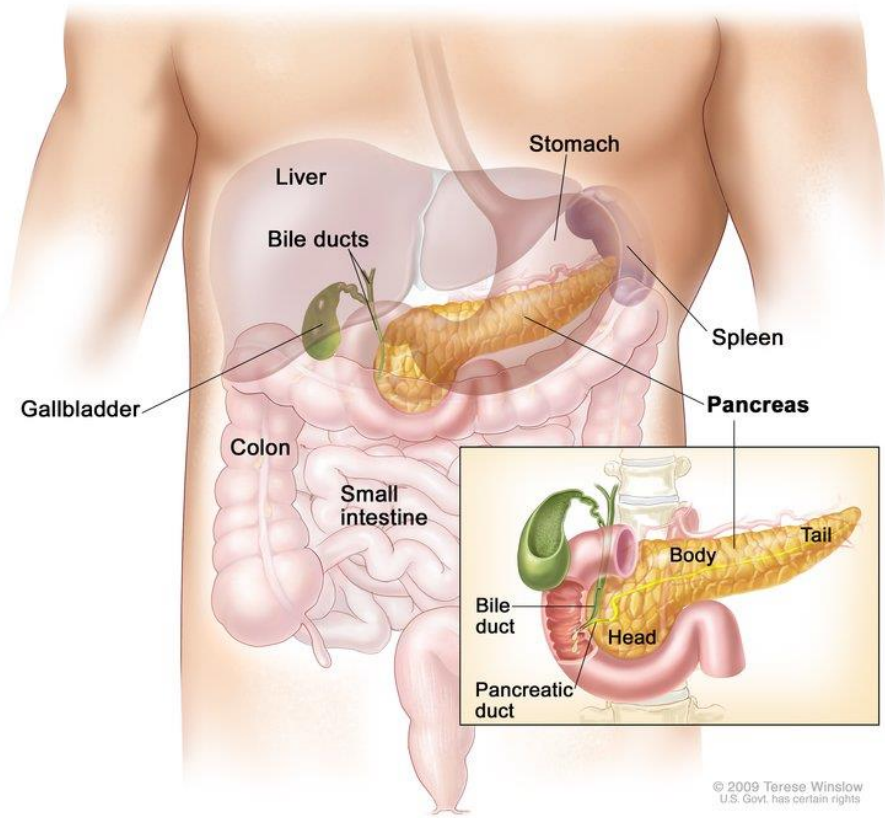
CENTER FOR DIGESTIVE HEALTH & NUTRITION
725 CHERRINGTON PARKWAY • MOON TOWNSHIP, PA 15108

SCAN/CLICK for PODCAST

Pancreatic Cysts: What Are They?

The human body is a marvel of nature, a complex system that works harmoniously to keep us healthy and active. However, sometimes, things can go wrong, such as the development of pancreatic cysts. This article will explore what pancreatic cysts are, their types, how they are diagnosed, and the available treatment options.

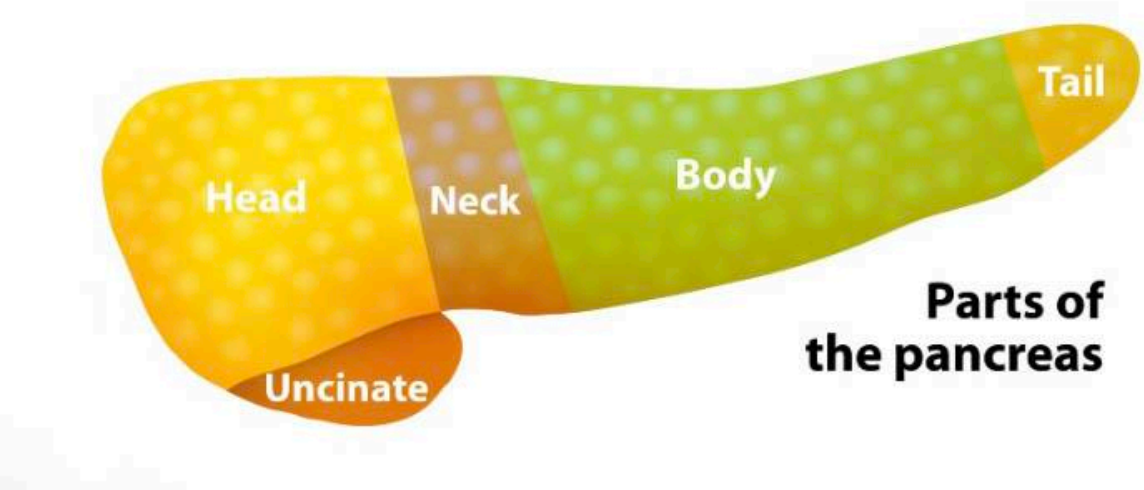


What Are Pancreatic Cysts?

Pancreatic cysts are fluid-filled sacs inside the pancreas, a vital organ deep within the abdomen. They are frequently unintentionally found during imaging examinations done for unrelated conditions like abdominal pain. Pancreatic cysts are quite common. For example, up to 15% of the U.S. population will develop a pancreatic cyst at some point in their lives. Most pancreatic cysts are benign (not cancer) and cause no symptoms, whereas others carry a considerable chance of developing into cancer in the future. Effectively managing these cysts requires knowing their nature, diagnosis, and available treatments.

The Pancreas's Function

The pancreas is a vital organ involved in both blood sugar management and digestion. About as big as your hand, the pancreas is in the back of your upper abdomen behind your stomach, liver, spleen, and small intestine. Anatomically, it is divided into five separate sections. The **head**, located on the right side of your abdomen; the **neck**; the **body**, which makes up the middle area; and the **tail**, which extends to the left, close to the spleen. The **uncinate** process is a projection below the head.



The pancreas is an essential organ that has two important jobs. It generates hormones like insulin that control blood sugar levels (endocrine function) and also produces enzymes that aid in the breakdown of food in the digestive tract (exocrine function)

What Causes Pancreatic Cysts?

The cause of pancreatic cysts is only sometimes completely understood, as they can result from various factors. Pancreatitis, a disorder in which the pancreas becomes inflamed, can cause certain cysts. Gallstones, excessive alcohol consumption, or specific drugs may bring on this inflammation. Trauma to the pancreas, such as from an injury or surgery, can cause cysts. Sometimes, congenital cysts are present from birth as a result of developmental defects. Age also plays a vital role since age increases the risk of acquiring pancreatic cysts. Most cysts are discovered accidentally, even in symptomless people, thanks to the increasing use of sophisticated imaging equipment.

Recognizing the Various Pancreatic Cyst Types

Depending on the type, pancreatic cysts can behave very differently from one another.

a. The most prevalent kind, **pseudocysts**, frequently develop following pancreatitis episodes. Since these cysts are benign—not cancerous—they might go away on their own without any medical intervention. Large pseudocysts, however, can occasionally result in symptoms like nausea or abdominal pain and may need medical attention.

b. Pancreatic cysts can also be **serous cystadenomas**. They contain a transparent, watery fluid and are usually benign. Large serous cystadenomas can cause discomfort or a fullness sensation by pressing against nearby organs, yet they seldom develop into a malignancy.

c. Pancreatic cysts can be broadly categorized as non-mucinous, which are benign, and mucinous, which have the potential to give rise to pancreatic cancer. M**ucinous cystic neoplasms (MCNs**) are potentially more harmful than the lesions above. These cysts, found in the body or tail of the pancreas, are frequently encountered in women. They are easy to recognize since they have a noticeable layer of ovarian-like tissue and contain thick, sticky fluid. MCNs often need to be surgically removed and have a higher risk of developing malignancy.

d. **Intraductal papillary mucinous neoplasms (IPMNs),** which develop in the pancreatic ducts and generate mucus, are another important kind. Depending on size and location, IPMNs can be benign, precancerous, or malignant. They are further divided into main-duct and branch-duct IPMNs, with the former at a higher risk of developing cancer. Knowing the sort of cyst you have is essential to choosing the right course of therapy.

How Does Your Doctor Know?

Pancreas cysts are often first recognized when an abdominal ultrasound is performed to evaluate symptoms such as abdominal pain. Once a cyst has been found on ultrasound, more testing is usually suggested to identify its type and assess its possible risk.

A computed tomography (CT) scan, which is more accurate than an ultrasound, is frequently the next step when identifying pancreatic cysts. This imaging examination can show the cyst's size, location, and interior features, as well as provide detailed images of the pancreas. A CT scan is a cross-section of the body. It is like taking a slice of bread out of a loaf and examining it.

Another popular diagnostic technique is magnetic resonance imaging (MRI). MRI provides superior visibility of the pancreas and its ducts without exposing patients to radiation. A special form of MRI is sometimes used to visualize the pancreatic and bile ducts. This is called MRCP or magnetic resonance cholangiopancreatography.

Although more intrusive, endoscopic ultrasonography (EUS) is a powerful diagnostic technique. From a patient's point of view, this is similar to having an upper GI endoscopy exam, or EGD. Performed under anesthesia, a thin, flexible "scope" equipped with an ultrasound instrument and camera is passed via the mouth into the stomach and small intestine. With this method, medical professionals can see the pancreas up close and, if needed, use a tiny needle to draw a sample of the cyst fluid for additional examination. This is called a Fine Needle Aspiration, or FNA.

Blood testing can also assess tumor markers, including CA 19-9, which can reveal whether a cyst is malignant.

By combining these diagnostic tools, doctors can categorize the cyst and suggest the best course of therapy.

PancreaSeq: A Real Breakthrough

Clinical research performed at the University of Pittsburgh in 2022 led to the discovery of a molecular test of pancreatic cyst fluid called PancreaSeg, which has been shown to classify pancreatic cysts as potentially cancerous or benign accurately. The multi-center study analyzed pancreatic cyst fluid collected during EUS from 1,832 patients from 31 institutions. This test accurately distinguished benign cysts from those that could become cancerous by sequencing 22 pancreatic cyst-associated genes.

Identifying High-Risk Characteristics

Certain features of pancreatic cysts suggest an increased risk of cancer. These include a solid component, dilatation of the pancreatic duct, and cysts larger than three centimeters. It's especially alarming if the cyst grows quickly or if its appearance changes significantly over time. Further testing with endoscopic ultrasonography and fine-needle aspiration is frequently advised if a cyst displays two or more of these characteristics. To remove the cyst and stop cancer from developing surgery could be required.

Monitoring Pancreatic Cysts

Not every pancreatic cyst needs to be treated immediately. Doctors frequently advise surveillance for small cysts without high-risk traits, which is routine monitoring to ensure the cyst doesn't expand or develop alarming signs. This method is very frequently used for cysts less than three centimeters in size and without solid components or duct dilatation.

Imaging tests such as MRIs and CT scans are frequently part of surveillance and are carried out regularly, usually every one to two years. If, after five years, the cyst is stable and does not exhibit any notable changes, surveillance may be stopped. However, several variables influence the decision to cease monitoring, including the patient's age, general health, and surgical suitability. Surveillance provides patients peace of mind by enabling medical professionals to identify possible issues early and prevent needless treatments.

Options for Pancreatic Cyst Treatment

The kind, size, location, symptoms, and potential for malignancy of pancreatic cysts all influence how they should be treated. Observation is frequently the best course of action for benign cysts that are small and asymptomatic. Taking immediate action may not be necessary because routine imaging exams can monitor changes over time.

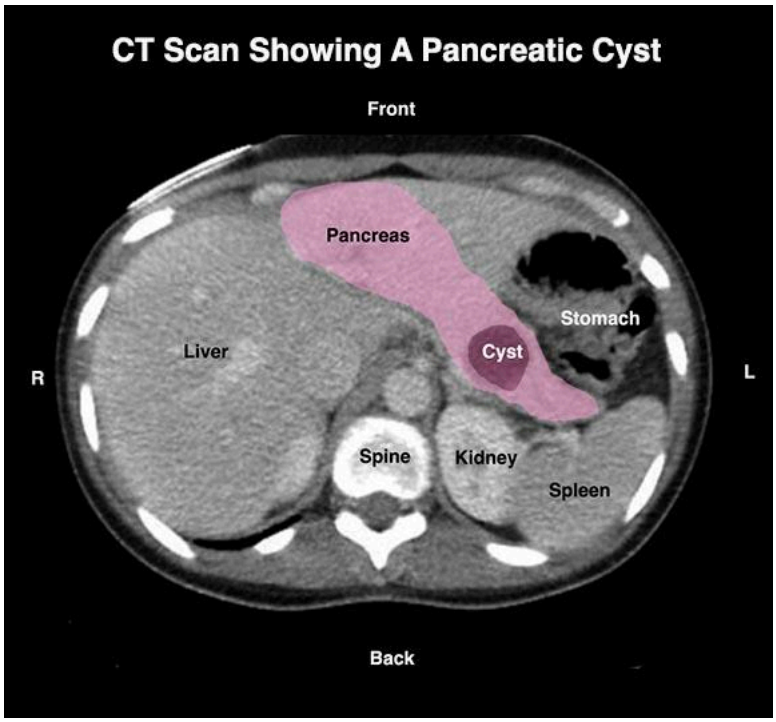
However, if a cyst is thought to be high-risk or causing symptoms, surgical excision can be required. The location of the cyst determines the type of operation. A distal pancreatectomy, which entails removing the pancreatic tail and occasionally a portion of its body, is frequently performed for cysts in the tail. Cysts in the pancreatic head may necessitate a more involved surgery known as a Whipple procedure. The duodenum, a

portion of the stomach, and the head of the pancreas are removed during this procedure. Surgery is frequently the most effective method of preventing the development of cancer, but it also carries dangers, such as infection and consequences from removing a portion of the pancreas.

Remember: Most Cysts Are Benign

Cystic pancreatic lesions are increasingly identified due to the widespread use of CT and MRI. Certain pancreatic cysts represent premalignant lesions and may transform into mucin-producing cancer. Although the overall risk of malignancy is very low, the presence of these pancreatic cysts is associated with a significant degree of anxiety, and further medical investigation is necessary. Although having a pancreatic cyst might be worrisome, it's crucial to remember that most cysts are benign and can be successfully monitored with proper care. Having open lines of communication with your healthcare practitioner and having regular checkups is crucial. If you have any worries about your pancreas or any other part of your health, you should always speak with your doctor.

Robert Fusco MD
November 2024



Current Guidelines from the American Gastroenterological Association (AGA)

These are the American Gastroenterological Association (AGA) 's official recommendations on managing pancreatic cysts. The guideline was developed by the AGA's Clinical Practice Guideline Committee and approved by the AGA Governing Board.

1. The AGA recommends that before starting any pancreatic cyst surveillance program, patients should have a clear understanding of risks and benefits.

2. The AGA suggests that patients with pancreatic cysts <3 cm without a solid component or a dilated pancreatic duct undergo MRI for surveillance in 1 year and then every 2 years for a total of 5 years if there is no change in size or characteristics.

3. The AGA suggests that pancreatic cysts with at least 2 high-risk features, such as size ≥3 cm, a dilated main pancreatic duct, or the presence of an associated solid component, should be examined with EUS-FNA.

4. The AGA suggests that patients without concerning EUS-FNA results should undergo MRI surveillance after 1 year and then every 2 years to ensure no change in risk of malignancy.

5. The AGA suggests that significant changes in the characteristics of the cyst, including the development of a solid component, increasing size of the pancreatic duct, and/or diameter ≥3 cm, are indications for EUS-FNA.

6. The AGA suggests against continued surveillance of pancreatic cysts if there has been no significant change in the characteristics of the cyst after 5 years of surveillance or if the patient is no longer a surgical candidate.

7. The AGA suggests that patients with both a solid component and a dilated pancreatic duct and/or concerning features on EUS and FNA should undergo surgery to reduce the risk of mortality from carcinoma.

8. The AGA recommends that if surgery is considered for a pancreatic cyst, patients are referred to a center with demonstrated expertise in pancreatic surgery.

9. The AGA suggests that patients with invasive cancer or dysplasia in a cyst that has been surgically resected should undergo MRI surveillance of any remaining pancreas every 2 years.

10. The AGA suggests against routine surveillance of pancreatic cysts without high-grade dysplasia or malignancy at surgical resection.

Center For Digestive Health & Nutrition
725 Cherrington Parkway • Moon Township, PA 15108
412.262.1000 • www.gihealth.com • IG: @thedigestivetract