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Patient information: Acute pancreatitis (Beyond the Basics)

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Literature review current through: Aug 2014. | **This topic last updated:** Mar 14, 2014.

PANCREATITIS OVERVIEW — Acute pancreatitis refers to inflammation of the pancreas, causing sudden and severe abdominal pain. The pancreas is an organ that lies in the back of the mid-abdomen ([figure 1](#)). It produces digestive juices and certain hormones, including insulin. Pancreatitis usually develops as a result of gallstones or moderate to heavy alcohol consumption over a period of years.

Most attacks of acute pancreatitis do not lead to complications, and most people recover uneventfully with medical care. However, a small proportion of people have a more serious illness that requires intensive medical care. In all cases, it is essential to determine the underlying cause of acute pancreatitis and, if possible, to treat this condition to prevent a recurrence.

This topic discusses acute or sudden onset pancreatitis. Chronic (long-term) pancreatitis is discussed separately. (See "[Patient information: Chronic pancreatitis \(Beyond the Basics\)](#)".)

PANCREATITIS CAUSES — There are many possible underlying causes of acute pancreatitis, but 60 to 75 percent of all cases are caused by gallstones or alcohol abuse. (See "[Etiology of acute pancreatitis](#)".)

Gallstone pancreatitis — Because the gallbladder and pancreas share a drainage duct, gallstones that lodge in this duct can prevent the normal flow of pancreatic enzymes and trigger acute pancreatitis. (See "[Patient information: Gallstones \(Beyond the Basics\)](#)".)

Alcoholic pancreatitis — Alcohol is a common cause of acute pancreatitis. Alcoholic pancreatitis is more common in individuals who have a long history of alcohol abuse.

Drug-induced pancreatitis — A number of drugs used to treat medical conditions can trigger acute pancreatitis.

Post-ERCP — Endoscopic retrograde cholangiopancreatography (ERCP) is a procedure that is done to evaluate the gallbladder or pancreas. Acute pancreatitis develops in about 3 to 5 percent of people who undergo ERCP. Most cases of ERCP-induced pancreatitis are mild. (See "[Patient information: ERCP \(endoscopic retrograde cholangiopancreatography\) \(Beyond the Basics\)](#)" and "[Post-endoscopic retrograde cholangiopancreatography \(ERCP\) pancreatitis](#)".)

Hereditary conditions — Acute pancreatitis can be caused by hereditary conditions, such as familial hypertriglyceridemia (high blood triglyceride levels) and hereditary pancreatitis. These conditions usually occur in children and young adults.

Unexplained — No underlying cause can be identified in about 20 percent of people with acute pancreatitis. This condition is called idiopathic pancreatitis. Only a small proportion of this group will experience additional attacks over time.

PANCREATITIS SYMPTOMS — Acute pancreatitis frequently presents with sudden, constant pain in the upper part of the abdomen, although other medical conditions can also cause this type of pain. The pain may wrap around your upper body and involve the back in a band-like pattern. The pain typically lasts days and is often relieved by leaning forward. Some people have only slight abdominal tenderness and in 5 to 10 percent of people, there is no pain at all.

In people with gallstone pancreatitis, gallbladder pain may occur before pancreatic pain. Gallbladder pain (referred to as biliary colic) occurs in the right upper abdomen, extending to the back and right shoulder. The pain gradually increases in intensity, is constant, and may be accompanied by nausea and vomiting. Gallbladder pain often follows a meal. (See "[Patient information: Gallstones \(Beyond the Basics\)](#)".)

In people with alcoholic pancreatitis, the symptoms of acute pancreatitis often occur one to three days after an alcohol binge or after stopping drinking. Pain is accompanied by nausea and vomiting in most people. In severe cases, the initial symptom may be shock or coma.

PANCREATITIS DIAGNOSIS — Diagnosing acute pancreatitis can be difficult because the signs and symptoms of pancreatitis are similar to other medical conditions. The diagnosis is usually based upon a medical history, physical examination, and the results of diagnostic tests. Two of the following three are required to make a diagnosis: (1) typical abdominal pain; (2) threefold or more elevation of pancreatic enzyme values in the blood; and (3) inflammation of the gland on computed tomography (CT) scan or magnetic resonance imaging (MRI) scan. The number and type of tests is tailored to the severity of acute pancreatitis and the most likely underlying causes. (See "[Clinical manifestations and diagnosis of acute pancreatitis](#)".)

Once a diagnosis of acute pancreatitis is made, additional tests are needed to determine the underlying cause. This ensures that the correct treatment is given to prevent pancreatitis from recurring.

Imaging tests — Imaging tests provide information about the structure of the pancreas, the ducts that drain the pancreas and gallbladder, and the tissues surrounding the pancreas. Imaging tests may include an x-ray of the abdomen, chest, CT scan or MRI of the abdomen

Endoscopic retrograde cholangiopancreatography (ERCP) — ERCP is a procedure that can be used to remove stones from the bile duct if your pancreatitis is due to gallstones or other problems with the bile or pancreatic ducts. In addition, ERCP can be used to treat some causes of pancreatitis. (See "[Patient information: ERCP \(endoscopic retrograde cholangiopancreatography\) \(Beyond the Basics\)](#)".)

PANCREATITIS TREATMENT — The goals of treatment of acute pancreatitis are to alleviate pancreatic inflammation and to correct the underlying cause. Treatment usually requires hospitalization for at least a few days. (See "[Management of acute pancreatitis](#)".)

Mild pancreatitis — Mild pancreatitis usually resolves with simple supportive care, which entails monitoring, drugs to control pain, and intravenous fluids. You may not be allowed to eat anything during the first few days if you have nausea or vomiting.

Moderate to severe pancreatitis — Moderate to severe pancreatitis requires more extensive monitoring and supportive care. This is because severe pancreatitis can lead to potentially life-threatening complications, including damage of the heart, lung, and kidneys. People with pancreatitis of this severity may be closely monitored in an intensive care unit.

During this time you may be given one or more of the following treatments:

- Intravenous fluids are given to help prevent dehydration.
- Most people with moderate to severe pancreatitis will not be able to eat in the early course of their illness. Instead, you may be fed through a tube placed through the nose or mouth into the small intestine.

If you cannot tolerate tube feeding or cannot get enough nutrients with tube feeding, you may be given nutrition through an intravenous line placed in the upper chest. You can resume eating gradually once your pain resolves and bowel function returns to normal.

- About 30 percent of people with severe acute pancreatitis develop an infection in the damaged pancreatic tissue. Antibiotics can prevent infections and control infections that are already present.
- Acute pancreatitis is sometimes complicated by extensive damage and/or infection to the pancreatic tissue. In these cases, the damaged and/or infected tissue may be removed in a procedure referred to as a necrosectomy. Necrosectomy can be done as a minimally invasive procedure.

Gallstone pancreatitis treatment — In people who have gallstone pancreatitis, the treatment of pancreatitis is usually coupled with the treatment of gallstones. This may include a procedure to relieve the blockage caused by the gallstone(s).

Gallstone pancreatitis recurs in 30 to 50 percent of people after an initial attack of pancreatitis. Surgical removal of the gallbladder (cholecystectomy) is often recommended during the same admission in mild cases to prevent a recurrence. (See "[Patient information: Gallstones \(Beyond the Basics\)](#)".)

In people who are elderly and who have serious medical problems, it may not be safe to remove the gallbladder. In this case, ERCP can be done to enlarge the bile duct opening. This would allow stones from the gallbladder to pass, helping to prevent a recurrence of acute pancreatitis.

WHERE TO GET MORE INFORMATION — Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Pancreatitis \(The Basics\)](#)

[Patient information: Gallbladder removal \(cholecystectomy\) \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Chronic pancreatitis \(Beyond the Basics\)](#)

[Patient information: Gallstones \(Beyond the Basics\)](#)

[Patient information: ERCP \(endoscopic retrograde cholangiopancreatography\) \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain

multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Clinical manifestations and diagnosis of acute pancreatitis](#)

[Etiology of acute pancreatitis](#)

[Pathogenesis of acute pancreatitis](#)

[Post-endoscopic retrograde cholangiopancreatography \(ERCP\) pancreatitis](#)

[Predicting the severity of acute pancreatitis](#)

[Management of acute pancreatitis](#)

The following organizations also provide reliable health information.

- National Library of Medicine

www.nlm.nih.gov/medlineplus/ency/article/000287.htm

- National Institute of Diabetes and Digestive and Kidney Diseases

digestive.niddk.nih.gov/ddiseases/pubs/pancreatitis

- American Gastroenterological Association

www.gastro.org/patient-center/digestive-conditions/pancreatitis

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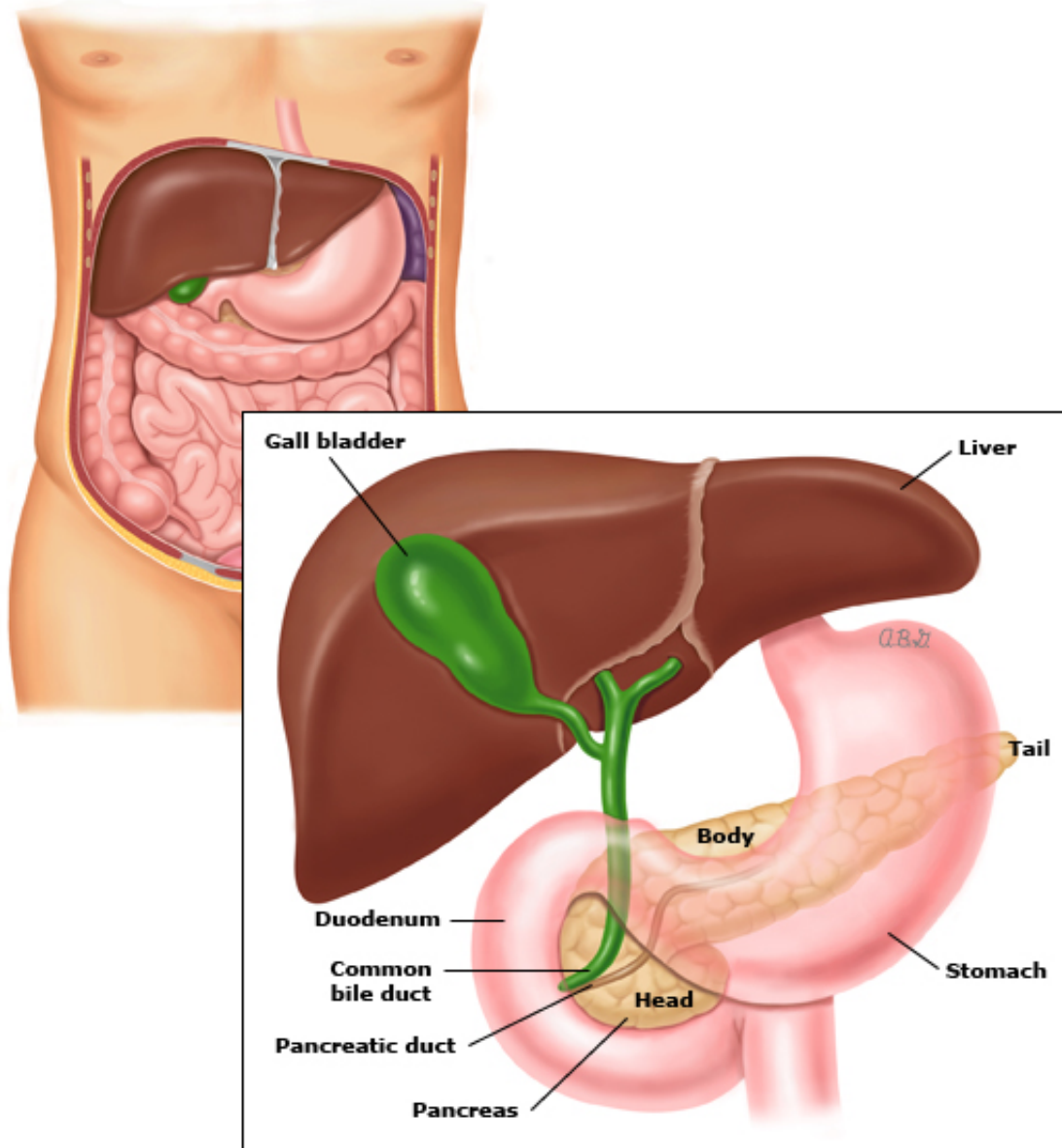
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GRAPHICS

Pancreas anatomy



The pancreas is a combination exocrine and endocrine organ. Exocrine tubuloacinar glands are responsible for secreting the digestive juices into the pancreatic ducts and subsequently the gastrointestinal tract. Approximately 1 million Islets of Langerhans responsible for the endocrine function of the pancreas are distributed throughout the exocrine pancreas. Beta and alpha cells of the endocrine islets are respectively responsible for secreting insulin and glycogen, while delta cells secrete somatostatin and PP cells secrete pancreatic polypeptide.

Graphic 53979 Version 11.0

Disclosures

Disclosures: **Santhi Swaroop Vege, MD** Nothing to disclose. **J Thomas Lamont, MD** Nothing to disclose. **Shilpa Grover, MD, MPH** Employee of UpToDate, Inc.

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