

PANCREATITIS

By Peter A. Banks, M.D., FACP & Saleem A. Desai, M.D.
Brigham & Women's Hospital

Originally published in October 2002. Updated by Dr. Peter A. Banks, M.D., FACP in April 2007.

What is the Pancreas?

The pancreas is an organ within the abdomen behind the stomach. Within the pancreas, there are specialized cells called acinar cells that synthesize, store, and secrete digestive enzymes into pancreatic ducts. Enzymes are transported via pancreatic ducts to the small intestine, where they help digest food. Within the pancreas, there are also specialized cells termed islet cells which manufacture insulin and other hormones as well. The release of insulin into the blood stream is important for the control of blood sugar.

What is Pancreatitis?

Acute pancreatitis is an acute inflammation of the pancreas characterized by swelling and at times even destruction of pancreatic tissue. The most common causes of acute pancreatitis are gallstones and excessive alcohol consumption. Other causes include medications, abdominal trauma, infections, and genetic abnormalities of the pancreas. Chronic pancreatitis is a chronic inflammation of the pancreas characterized by scarring of tissue that at times is sufficient enough to impair digestion of food and to cause diabetes mellitus. The most common causes of chronic pancreatitis are excessive consumption of alcohol and genetic abnormalities of the pancreas. At times, the cause is unknown.

Acute Pancreatitis

The diagnosis of acute pancreatitis is made by a combination of clinical symptoms, physical examination, laboratory tests including amylase and lipase. An abdominal CT Scan may also be required.

What are the Symptoms of Acute Pancreatitis?

- Gradual or sudden onset of severe pain in the upper abdomen that may radiate to the back and usually persists for several days.
- Nausea and vomiting
- Fever

Chronic Pancreatitis

Chronic pancreatitis is characterized by intermittent or constant abdominal pain. Each episode of pain lasts for at least several days. The diagnosis of chronic pancreatitis is



made by a combination of clinical symptoms and imaging studies such as abdominal CT scan, MRI, EUS and/or ERCP (endoscopic retrograde cholangiopancreatography). In severe chronic pancreatitis, blood sugar may be elevated and there may be excessive fat in the stool.

What are the Symptoms of Chronic Pancreatitis?

- Recurrent abdominal pain (intermittent or constant)
- Greasy or oily stools (steatorrhea)
- Weight loss

What Should I Do If I Think I Have Pancreatitis?

If you are experiencing severe abdominal pain, call your doctor or go to the nearest emergency room. The doctor will take a medical history, perform a physical examination, and draw blood to tests for pancreatic enzymes (amylase and lipase). An ultrasound of the abdomen may be performed to exclude the presence of gallstones. Other imaging tests such as a CT scan, MRI or an ERCP may be performed.

What is the Treatment for Pancreatitis?

The principles for the treatment of acute pancreatitis are: 1) rest the pancreas by restricting oral intake of food; 2) administer intravenous fluids to maintain an adequate blood volume. Medications are administered to relieve pain. If alcohol is the cause of pancreatitis, strict abstinence from alcohol is recommended. Surgical removal of the gall bladder is indicated when the pancreatitis results from gallstones. If the bile duct is blocked by a gallstone, you may require an ERCP in order to remove the gallstone.

The most important goal in the treatment of chronic pancreatitis is to relieve pain with medications. If pain is difficult to control, you may be referred to a Pain Management Specialist. At times, relief of pain may require endoscopic treatment, radiologic treatment, or surgical treatment. If it is determined that your pancreas has lost its ability to digest food, pancreatic enzyme supplements in the form of tablets or capsules will be prescribed. If your blood sugar level is very high and not controlled by diet or oral medications, insulin may be required.

Prevention of Pancreatitis

- Gallstone Pancreatitis - surgical removal of the gall bladder
- Alcohol-induced Pancreatitis - strict abstinence from alcohol

Terminology

Bile – A secretion from the liver that assists in digesting fats.



Biliary System – The ducts and tubes that collect and drain bile in to the intestine.

CT Scan – Computerized tomography is a specialized radiologic test for imaging the pancreas and other intra-abdominal organs.

ECRP (Endoscopic Retrograde Cholangiopancreatography) – A procedure utilizing a long, narrow, flexible tube called an endoscope that is introduced via the mouth into the small intestine to examine the pancreatic duct and bile ducts.

EUS – An endoscopic test for imaging the pancreas and other intra-abdominal organs.

Diabetes Mellitus – A condition characterized by an abnormally elevated blood sugar level. One cause is failure of the pancreas to secrete enough insulin when a patient has severe chronic pancreatitis.

Endocrine – The portion of the gland that releases insulin directly into the blood stream.

Exocrine – The portion of the gland that secretes pancreatic juice via the pancreatic duct into the small intestine.

Inflammation – A response to tissue injury that results in redness, swelling, and pain.

MRI – Magnetic resonance imaging is a radiologic test for imaging the pancreas and other intra-abdominal organs. It also visualizes the pancreatic and bile ducts.

Pancreas – The pancreas is an organ within the abdomen that is responsible for digestion of food and control of blood sugar.

Pancreatic duct – Drains pancreatic enzymes into the duodenum.

Ultrasonography (Ultrasound) – A radiologic test for imaging the pancreas and other intra-abdominal organs. It is particularly useful in visualizing the liver and gall bladder.

