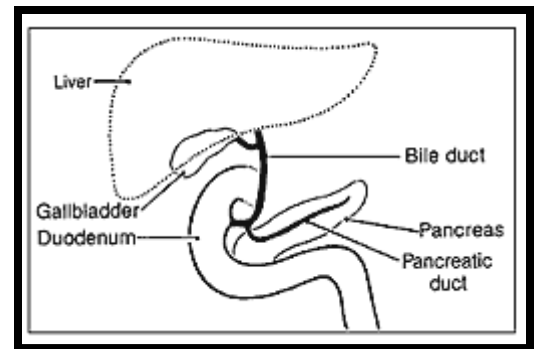


Pancreatitis

Pancreatitis is an inflammation of the pancreas. The pancreas is a large gland behind the stomach and close to the duodenum. The duodenum is the upper part of the small intestine. The pancreas secretes digestive enzymes into the small intestine through a tube called the pancreatic duct. These enzymes help digest fats, proteins, and carbohydrates in food. The pancreas also releases the hormones insulin and glucagon into the bloodstream. These hormones help the body use the glucose it takes from food for energy.

Normally, digestive enzymes do not become active until they reach the small intestine, where they begin digesting food. But if these enzymes become active inside the pancreas, they start "digesting" the pancreas itself.

Acute pancreatitis occurs suddenly and lasts for a short period of time and usually resolves. Chronic pancreatitis does not resolve itself and results in a slow destruction of the pancreas. Either form can cause serious complications. In severe cases, bleeding, tissue damage, and infection may occur. Pseudocysts, accumulations of fluid and tissue debris, may also develop. And enzymes and toxins may enter the bloodstream, injuring the heart, lungs, and kidneys, or other organs.



Acute Pancreatitis

Some people have more than one attack and recover completely after each one, but acute pancreatitis can be a severe, life-threatening illness with many complications. About 80,000 cases occur in the United States each year; some 20 percent of them are severe. Acute pancreatitis occurs more often in men than women.

Acute pancreatitis is usually caused by gallstones or by drinking too much alcohol, but these aren't the only causes. If alcohol use and gallstones are ruled out, other possible causes of pancreatitis should be carefully examined so that appropriate treatment—if available—can begin.

Symptoms

Acute pancreatitis usually begins with pain in the upper abdomen that may last for a few days. The pain may be severe and may become constant—just in the abdomen—or it may reach to the back and other areas. It may be sudden and intense or begin as a mild pain that gets worse when food is eaten. Someone with acute pancreatitis often looks and feels very sick. Other symptoms may include

- swollen and tender abdomen
- nausea
- vomiting
- fever
- rapid pulse

Severe cases may cause dehydration and low blood pressure. The heart, lungs, or kidneys may fail. If bleeding occurs in the pancreas, shock and sometimes even death follow.

Treatment

Treatment depends on the severity of the attack. If no kidney or lung complications occur, acute pancreatitis usually improves on its own. Treatment, in general, is designed to support vital bodily functions and prevent complications. A hospital stay will be necessary so



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If pancreatic pseudocysts occur and are considered large enough to interfere with the pancreas's healing, your doctor may drain or surgically remove them.

Unless the pancreatic duct or bile duct is blocked by gallstones, an acute attack usually lasts only a few days. In severe cases, a person may require intravenous feeding for 3 to 6 weeks while the pancreas slowly heals. This process is called total parenteral nutrition. However, for mild cases of the disease, total parenteral nutrition offers no benefit.

Gallstones can cause pancreatitis and they usually require surgical removal. When gallstone surgery can be scheduled depends on how severe the pancreatitis is. If the pancreatitis is mild, gallstone surgery may proceed within about a week. More severe cases may mean gallstone surgery is delayed for a month or more. After the gallstones are removed and inflammation goes away, the pancreas usually returns to normal.

Chronic Pancreatitis

If injury to the pancreas continues, chronic pancreatitis may develop. Chronic pancreatitis occurs when digestive enzymes attack and destroy the pancreas and nearby tissues, causing scarring and pain. The usual cause of chronic pancreatitis is many years of alcohol abuse, but the chronic form may also be triggered by only one acute attack, especially if the pancreatic ducts are damaged. The damaged ducts cause the pancreas to become inflamed, tissue to be destroyed, and scar tissue to develop.

While common, alcoholism is not the only cause of chronic pancreatitis. The main causes of chronic pancreatitis are

- alcoholism
- blocked or narrowed pancreatic duct because of trauma or pseudocysts have formed
- heredity
- unknown cause (idiopathic)

Damage from alcohol abuse may not appear for many years, and then a person may have a sudden attack of pancreatitis. In up to 70 percent of adult patients, chronic pancreatitis appears to be caused by alcoholism. This form is more common in men than in women and often develops between the ages of 30 and 40.

Hereditary pancreatitis usually begins in childhood but may not be diagnosed for several years. A person with hereditary pancreatitis usually has the typical symptoms that come and go over time. Episodes last from 2 days to 2 weeks. A determining factor in the diagnosis of hereditary pancreatitis is two or more family members with pancreatitis in more than one generation. Treatment for individual attacks is usually the same as it is for acute pancreatitis. Any pain or nutrition problems are treated just as they are for acute pancreatitis. Surgery can often ease pain and help manage complications.

Other causes of chronic pancreatitis are

- congenital conditions such as pancreas divisum
- cystic fibrosis
- high levels of calcium in the blood (hypercalcemia)
- high levels of blood fats (hyperlipidemia or hypertriglyceridemia)
- some drugs
- certain autoimmune conditions

Symptoms(Chronic Pancreatitis)

Most people with chronic pancreatitis have abdominal pain, although some people have no pain at all. The pain may get worse when eating or drinking, spread to the back, or become constant and disabling. In certain cases, abdominal pain goes away as the condition advances, probably because the pancreas is no longer making digestive enzymes. Other symptoms include nausea, vomiting, weight loss, and fatty



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stools.

People with chronic disease often lose weight, even when their appetite and eating habits are normal. The weight loss occurs because the body does not secrete enough pancreatic enzymes to break down food, so nutrients are not absorbed normally. Poor digestion leads to excretion of fat, protein, and sugar into the stool. If the insulin-producing cells of the pancreas (islet cells) have been damaged, diabetes may also develop at this stage.

Diagnosis

Diagnosis may be difficult, but new techniques can help. Pancreatic function tests help a doctor decide whether the pancreas is still making enough digestive enzymes. Using ultrasonic imaging, endoscopic retrograde cholangiopancreatography (ERCP), and CAT scans, a doctor can see problems indicating chronic pancreatitis. Such problems include calcification of the pancreas, in which tissue hardens from deposits of insoluble calcium salts. In more advanced stages of the disease, when diabetes and malabsorption occur, a doctor can use a number of blood, urine, and stool tests to help diagnose chronic pancreatitis and to monitor its progression. For more information about ERCP, please see the *ERCP* fact sheet from the NIDDK.

Treatment

Relieving pain is the first step in treating chronic pancreatitis. The next step is to plan a diet that is high in carbohydrates and low in fat.

A doctor may prescribe pancreatic enzymes to take with meals if the pancreas does not secrete enough of its own. The enzymes should be taken with every meal to help the body digest food and regain some weight. Sometimes insulin or other drugs are needed to control blood glucose. In some cases, surgery is needed to relieve pain. For fewer and milder attacks, people with pancreatitis must stop drinking alcohol, stick to their prescribed diet, and take the proper medications.