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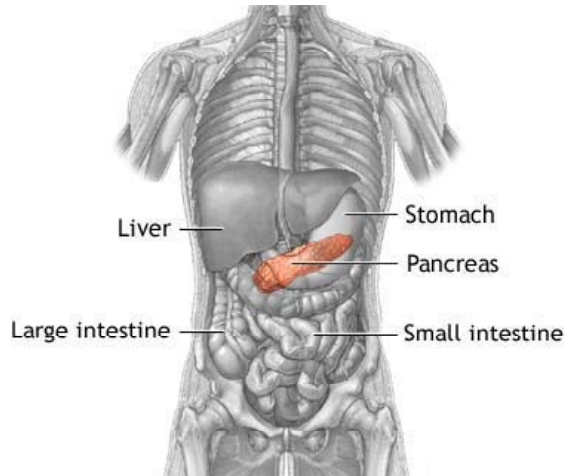
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Pancreas

The pancreas is a long, flat gland, measuring about 7 inches in length, that lies behind the lower part of the stomach. The exact function of the pancreas remained obscure until the mid-to-late 1800s, when scientists discovered the dual role played by the pancreas: manufacture and supply of chemicals needed in food digestion, and regulation of blood sugar



The pancreas makes several digestive chemicals (enzymes), dissolves them all together into a liquid, and secretes this digestive juice into a tiny duct that drains into the small intestine. Within the intestine, these chemicals mix with food, speeding up the breakdown of protein, carbohydrates and fat into particles which are small enough to be absorbed from the intestine and into the bloodstream.

Other cells within the pancreas make hormones which regulate blood sugar. The best known of these is **insulin**, which lowers blood sugar. The pancreas also makes **glucagon**, which raises blood sugar. The pancreas constantly monitors the body's blood sugar, and releases these regulatory chemicals directly into the bloodstream in amounts needed to maintain a blood sugar within a proper range.

Acute pancreatitis is a condition in which the pancreas becomes inflamed. The most common causes are gallstones and excessive alcohol use. In this disease, the pancreas' own

enzymes begin to digest itself and other abdominal contents, creating a chemical burn which can be quite severe. The major symptoms are vomiting and abdominal pain. If enzymes enter the bloodstream, they may cause chemical injury to the lungs, heart, kidneys and other organs as well. Some attacks of acute pancreatitis are mild and last only a few days. Severe attacks may last for weeks or even months, and may be complicated by shock, hemorrhage, severe infection, organ failure, and even death.

Although there is no specific treatment for acute pancreatitis, most cases respond to medical management. Gallstone pancreatitis requires surgical removal of the gallbladder in order to prevent recurrent attacks. Alcoholic pancreatitis will generally return if alcohol use is not stopped.

Chronic pancreatitis is a result of repeated attacks of acute pancreatitis that have caused so much damage to the pancreas that much of the gland has been destroyed and replaced with scar tissue. The resulting lack of digestive enzymes may cause impaired digestion, with symptoms of bloating, diarrhea and weight loss leading to malnutrition. The loss of insulin production may cause the development of diabetes mellitus.

Interestingly, in the early stages of alcoholic pancreatic disease, the early attacks of acute pancreatitis over several years may be silent, with no symptoms. By the time of the first symptomatic attack of "acute" alcoholic pancreatitis, the disease is actually already chronic, and significant irreversible damage to the pancreas has already occurred.

The complications of chronic pancreatitis usually require lifelong medical therapy, which may include dietary modification (high protein, high carbohydrate, low fat), avoidance of alcohol, pancreatic enzyme supplements, vitamin supplements, and possibly insulin or other medications to regulate blood sugar.

Cancer of the pancreas is a rare disorder. Unfortunately, there are usually few warning symptoms until the disease has advanced, and the condition is generally fatal.