



**Ettinger: Textbook of Veterinary Internal
Medicine, 7th Edition
Acute Pancreatitis in the Dog and Cat
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What is pancreatitis?

The pancreas is a dual functioning gland that is located in the front part of the abdomen. It lies just below the stomach and directly beside the upper part of the small intestine.

The pancreas performs two important functions:

- The main endocrine or hormonal function of the pancreas is responsible for blood sugar regulation through its production of important hormones, one of which is insulin.
- The other function involves the production of special chemicals, or enzymes, that are essential for food digestion. These enzymes are normally inactive in the pancreas until they are needed during mealtime. At meals, the enzymes are released into ducts that empty into the small intestine. Once there, they become activated into potent chemicals that break down ingested food into smaller particles, thus allowing for their normal passage through the bowel wall and into the circulation.

Acute pancreatitis occurs when the digestive chemicals are activated inside the pancreas instead of inside the intestine. Activating enzymes inside the pancreas causes severe inflammation and potential destruction of this vital abdominal organ. This can also have far reaching adverse effects on many organ systems in the body. The process can be compared to a forest fire burning in the front part of the abdomen while simultaneously spreading its damage to other more distant structures in the animal's body. Imagine that these rage one day and then die down to smolder on the following day while awaiting the next opportunity to revert into raging flames the next day. This is how acute pancreatitis can behave in your pet. The disease process places you, your veterinarian, and your pet at the mercy of its unpredictable course.

What causes pancreatitis?

Statistically, obesity and the ingestion of fatty meals are the two main predisposing factors in the dog. Other suspected predisposing causes in the dog and cat are abdominal trauma, certain drugs and metabolic disease. It is also possible for certain conditions to compromise blood supply to the pancreas. In many cases, the cause is listed as unknown or "idiopathic" because of the absence of any of the known predisposing conditions.

What are the symptoms of pancreatitis?

Dogs characteristically display sudden onset of some of the following symptoms:

- Vomiting, usually yellow in color due to bile content
- Abdominal discomfort
- Complete loss of appetite
- Varying degrees of mental depression, depending on the severity of the condition
- Loose stools
- Depression
- Fever
- Dehydration

Cats can show similar signs, but many cats are more subtle in their illness, with nothing more than:

- Mental depression
- Loss of appetite
- Marked inactivity
- Vomiting may or may not be present

In its worse form, acute pancreatitis can cause a complete state of collapse because of a severe drop in blood pressure which can go on to cause adverse effects on other organ systems in the body including the heart, liver, kidneys, and blood vessels.

How is pancreatitis diagnosed?

The diagnosis of pancreatitis is not easy because the symptoms and the test results can mimic other abdominal disorders. Therefore, the diagnosis is usually tentative and based on the results of several diagnostic tests. Somewhat like a mathematical model, the whole of the diagnosis is composed of the sum of the parts of diagnostic data available.

The most helpful tests include:

- Abdominal x-rays
- Abdominal ultrasound
- Complete blood count
- Serum biochemistry panel
- Levels of certain pancreatic enzymes in the blood

Some of these blood tests might have to be sent out to an outside lab, thus causing a delay in the diagnosis. This delay should not postpone immediate and aggressive supportive treatment measures when the circumstantial evidence is strong. Sometimes despite the availability of many diagnostic tests, the diagnosis of pancreatitis can remain elusive, calling for the gold standard of diagnostic tests: the surgical exploratory where the doctor can visualize and perhaps even biopsy the gland.

What treatment is needed?

Treating pancreatitis should begin as soon as possible:

- The most severely ill patients are placed in intensive care where they will receive an intravenous catheter to allow for the intravenous delivery of fluids, which will help restore normal blood pressure.
- All food and water will be restricted for 5-7 days in order to "rest" the pancreas. Nutrition can be given by vein in cases where the disease lasts more than 5 days.
- Other drugs that might be indicated are antibiotics, insulin, certain anti-vomiting and anti-ulcer medications, and special drugs to help restore normal gut movement.

There will be times when the pancreatitis patient will benefit from surgery. The surgeon will have the opportunity to remove any unhealthy tissue, remove any accumulations of pus, and may insert a special feeding (J-tube) into the small bowel which will exit from the body wall, thus allowing a simple means of providing important nutrition for your pet while healing occurs.

The duration of treatment will hopefully be only 5-7 days, but in the more severe cases it has been shown to be necessary to treat for as long as 4-5 weeks. What this means to the patient is a significant amount of time away from home, and what it means to the pet owner is worry over the unpredictability of this terrible disease and the unfortunate large expense that will accompany the prolonged stay in intensive care. This can add up to an extremely frustrating experience for all concerned, especially when the outcome can be the animal's death. As many as 50% of dogs and cats with pancreatitis do not survive.

Because of the special needs required for the pancreatitis patient, your veterinarian might suggest that your pet be referred to a specialty facility that is adequately staffed and equipped for providing around-the-clock care of the critically ill animal.

Home care and possible long term after effects:

Your pet will be released from the hospital once the vomiting has ceased for approximately 5 days and a general sense of well-being has returned. Home treatment will vary according to how ill your pet was. In many cases, an antibiotic will have to be given orally for a prescribed period of time.

Dietary changes are essential for the dog, but not for the cat. The dog must receive a low fat diet, which is best provided with one of several commercially available low fat prescription diets. The feedings will be evenly divided into 3-4 small portions and be given throughout the day. The low fat will hopefully ease the workload on the dog's pancreas and therefore hopefully avoid a recurring episode of acute pancreatitis. The decreased calories in these special diets will benefit your pet if it was overweight before becoming ill. If obesity was not a problem, then adjustments in total intake will be necessary in order to avoid any unneeded weight loss.

In some cases, the dog and cat that survive acute pancreatitis can be affected with either one or any combination of the following disorders:

- Insulin-dependent diabetes mellitus
- Exocrine pancreatic insufficiency (EPI)
- Recurrent pancreatitis

The diabetes is usually manageable with injectable insulin and a proper diet. The EPI is treated long term with commercially obtained pancreatic enzymes that will be added to your pet's food to facilitate proper digestion. The threat of recurrent pancreatitis can pose the same concerns as the original illness. This is why it is imperative that your dog never receives any fatty foods for the rest of its life. Avoiding high fat foods will hopefully spare your dog from a relapse of this dreaded disease.